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THE HEALTH OF CHILDREN IN WARTIME DAY NURSERIES

A REPORT OF AN INVESTIGATION BY THE DAY NURSERIES COMMITTEE OF THE MEDICAL WOMEN'S FEDERATION, IN CONJUNCTION WITH W. J. MARTIN, Ph.D.

This investigation was sponsored and planned by the Day Nurseries Committee of the Medical Women's Federation.* The statistical analyses have been in the hands of Dr. W. J. Martin. All the medical examinations were carried out by doctors in the Public Health Service in a number of areas throughout the country.

Aim and Method of the Investigation

The purpose of the inquiry was to obtain data concerning the effect of life in wartime day nurseries on the health of young children. The present report describes one section of the investigation only—a comparison of children who had been six months or more on the register of a wartime day nursery (nursery group I) with two other groups: (*a*) children who had been less than one week in a day nursery (nursery group II); and (*b*) children attending welfare centres.

A comparison only with children attending welfare centres might be misleading, since economic and other factors may influence admission to a day nursery or attendance at a welfare centre. To eliminate differences between these two groups, so far as was possible, each nursery where the inmates were examined was paired with a welfare centre serving the same area, so that for each district the children were drawn from a roughly similar environment; further, in the records used for this report the children at any one day nursery and its paired welfare centre were examined by the same doctor and within one short period, which in most areas was less than a week and in no area longer than a fortnight. Nevertheless, it was recognized that even with these conditions the two groups are not necessarily strictly comparable. For this reason comparison was also made with children within one week of admission to a day nursery, as this group should show whether or not children on arrival at a day nursery were similar to welfare-centre children. Unfortunately it was not possible to examine the majority of these children on the first day of nursery life as would have been desirable.

The examinations were carried out by 73 medical officers in the course of their usual work. Each child was examined once only, and the records were limited, with one exception, to items about which there should be the minimum variation of opinion between doctors. The exception was an impression of the general health of the child, and it was recognized that this would be of value only if there were a large preponderance of opinion one way or the other. The records included sex, date of birth, date of admission (for nursery children), weight, and the presence or absence of the following signs of respiratory infection: enlargement of the tonsillar glands, nasal discharge, mouth-breathing, and physical signs of bronchitis.

Clinical Material

Children were examined in day nurseries and welfare centres in 22 local government areas in Great Britain. These included 14 county and non-county boroughs (3 in Scotland, 1 in Wales, 6 in Northern England, 2 in the Midlands, 1 in the West of England, and 1 on the outskirts of London), also 5 county areas (including small towns and semi-rural areas in Scotland and Southern, Midland, and Northern England) and 3 London boroughs. All the examinations were made in the period February to September, 1945. The age range was from 6 months to 5 years. It proved impossible to obtain a similar age distribution in the different groups because of the relatively small number of young children attending day nurseries, and of older children attending welfare centres. The age distribution in the two major groups (nursery group I and welfare-centre group) is given in Tables II and III.

The report is based on the records of 4,587 children, made up as shown in Table I.

TABLE I.—*Groups of Children Examined*

	Males	Females	Total
Children on the register of a day nursery for 6 months or longer (nursery group I)	1,193	943	2,136
Children attending a welfare centre ..	1,094	1,067	2,161
Children on the register of a day nursery for 1 week or less (nursery group II)	158	132	290

For those unfamiliar with the implication of names such as day nursery, nursery school, and nursery class it may be as well to state that wartime day nurseries were established with the object—not necessarily fulfilled—of augmenting the country's labour force, that admission was therefore limited in the main to the children of mothers in employment, that the nurseries were usually open from 7 a.m. to 7 p.m. for 5½ or 6 days a week, and admitted children up to 5 years old. Each nursery was under the charge of a matron, usually a State-registered nurse, assisted by a certificated or uncertificated teacher, trained nursery nurses, nursery assistants (with a brief wartime training or none at all), and student nursery nurses. The approved complement of full-time staff (excluding domestic) was one to every five children. A nursery school or class does not admit children under 2 years old, and is under the direction of a certificated teacher, with assistants, and a visiting or whole-time nurse. Normally a nursery school is open only for the usual school hours, and, though they have often been open for longer hours during the war, it has not usually been for as long as the 12-hour day of the wartime day nurseries. The report deals with children in day nurseries only, but the findings observed would probably apply to some extent to any congregation of young children.

Comparison of Welfare-centre Children and those who had been Six Months or More on the Register of a Day Nursery

Tables II and III show separately for males and females in the welfare-centre group and nursery group I the percentage distribution of the various physical conditions on which information was sought.

Tonsillar Glands.—The doctors were asked to record these glands as being "not palpable," "just palpable," "intermediate," or "grossly enlarged." The last two classifications have been grouped together in the tables. Tonsillar gland enlargement of all grades was more common among children in nursery group I than among welfare-centre children, and the difference between the two was significant for both males and females. When these two groups are subdivided by age (five age groups for each sex—see Tables II and III) the difference between nursery and welfare-centre children is significant in five out of

* The following are the members of the Committee: Dame Janet Campbell, President of the Medical Women's Federation (*ex officio*), Dr. Katherine Hirst (Chairman), Dr. Beryl Harding (Hon. Secretary), Drs. Marjorie Back, Mary Boyd, Annis Gillie, Sylvia Guthrie, Helen Mackay, Jean Mackintosh, Mary Sheridan, and Nora Wattie

the ten age groups. It is a curious fact that, although "just palpable" tonsillar glands were considerably more common among nursery children than among welfare-centre children, the greater degrees of enlargement were only slightly more common.

Nasal Discharge.—The doctors were asked to record nasal discharge as "not present," "present and observed" (i.e., observed by the doctor by ordinary external examination), or "stated to be present" (i.e., the nurse or mother stated that children. The proportion with "reported" nasal discharge was larger among the welfare-centre children, and the difference was significant for all ages combined among boys, but not among girls. It is probable that there is a difference in the reliability of the information regarding "reported" nasal discharge, since in the welfare-centre group the mother of the child was questioned, but in the nursery group the matron or other member of the staff supplied the information; the results have, however, been included for the sake of completeness.

TABLE II.—*Incidence of Physical Conditions: Males. (Children affected shown as percentage of total number examined)*

Age in Years		No. of Children	Tonsillar Glands			Nasal Discharge		Mouth-breathing	Bronchitis	General Impression		
			Just Palpable	Intermediate and Grossly Enlarged	All Degrees of Enlargement	Observed	Reported			Very Fit and Well	Fair Health	Poor Health
1/2–1	N.	43	25·6	4·7	30·2	23·6	7·0	37·2	20·9	86·0	11·6	2·4
	C.	247	15·0	2·4	17·4	20·6	5·3	25·9	17·0	86·2	10·9	2·9
	Difference		+10·6	+2·3	+12·8	+5·0	+1·7	+11·3	+3·9	−0·2	+0·7	−0·5
	S.E.		6·1	2·7	6·5	6·8	3·8	7·4	6·3	5·7	5·2	2·7
1–2	N.	211	37·0	11·4	48·3	35·1	9·5	35·5	15·2	72·5	24·7	2·8
	C.	294	27·2	10·2	37·4	20·4	8·8	29·3	8·8	74·5	20·1	5·4
	Difference		*+9·8*	+1·2	*+10·9*	*+14·7*	+0·7	+6·2	*+6·4*	−2·0	+4·6	−2·6
	S.E.		4·8	2·8	4·6	4·0	2·6	4·2	2·9	4·0	3·7	1·8
2–3	N.	313	44·7	16·3	61·0	45·4	4·5	37·4	16·3	81·5	15·0	3·5
	C.	240	34·6	14·2	48·8	28·3	9·2	26·3	10·0	73·3	21·7	5·0
	Difference		*+10·1*	+2·1	*+12·2*	*+17·1*	*−4·7*	*+11·1*	*+6·3*	*+8·2*	*−6·7*	*−4·6*
	S.E.		4·2	3·1	4·3	4·2	2·1	4·0	2·9	3·6	3·2	1·7
3–4	N.	356	38·5	20·2	58·7	39·0	2·5	33·7	9·8	79·2	19·7	1·1
	C.	185	31·9	19·5	51·4	21·6	8·6	27·6	9·2	74·0	18·4	7·6
	Difference		+6·6	+0·7	+7·3	*+17·4*	*−6·1*	+6·1	+0·6	+5·2	+1·3	*−6·5*
	S.E.		4·4	3·6	4·5	4·3	1·9	4·3	2·7	3·8	3·6	1·6
4–5	N.	270	47·8	18·1	65·9	28·9	4·1	28·9	5·2	84·4	13·7	1·9
	C.	128	35·9	23·4	57·8	13·3	10·2	21·9	3·1	71·9	21·9	6·2
	Difference		*+11·9*	−5·3	+8·1	*+15·6*	*−6·1*	+7·0	+2·1	*+12·5*	*−8·2*	*−4·3*
	S.E.		5·3	4·3	5·2	4·6	2·6	4·7	2·2	4·3	4·0	1·9
1/2–5	N.	1,193	41·5	16·0	58·1	37·2	4·8	34·0	11·8	80·1	17·7	2·2
	C.	1,094	27·9	12·4	40·3	21·6	8·2	26·7	10·3	76·5	18·3	5·2
	Difference		*+13·6*	*+4·2*	*+17·8*	*+15·6*	*−3·4*	*+7·3*	*+1·5*	*+3·6*	*−0·6*	*−3·0*
	S.E.		2·0	1·5	2·1	1·9	1·0	1·9	1·3	1·7	1·6	0·8

N = children on nursery register for six months or more; C. = welfare-centre children. Significant differences are shown in italics.

TABLE III.—*Incidence of Physical Conditions: Females. (Children affected shown as percentage of total number examined)*

Age in Years		No. of Children	Tonsillar Glands			Nasal Discharge		Mouth-breathing	Bronchitis	General Impression		
			Just Palpable	Intermediate and Grossly Enlarged	All Degrees of Enlargement	Observed	Reported			Very Fit and Well	Fair Health	Poor Health
1/2–1	N.	36	30·6	—	30·6	19·4	8·3	25·0	22·2	77·8	22·2	—
	C.	221	14·0	1·8	15·8	17·2	5·4	19·5	12·2	86·0	12·7	1·3
	Difference		*+16·6*	−1·8	*+14·8*	+2·2	+2·9	+5·5	+10·0	−8·2	+9·5	−1·3
	S.E.		6·7	2·2	6·9	6·8	4·2	7·2	6·8	6·5	6·2	1·9
1–2	N.	157	32·5	5·1	37·6	43·3	4·5	21·7	14·7	77·7	17·2	5·1
	C.	305	26·9	3·6	30·5	19·7	5·9	18·0	10·5	75·4	22·0	2·6
	Difference		+5·6	+1·5	+7·1	*+23·6*	−1·4	+3·7	+4·2	+2·3	−4·8	+2·5
	S.E.		4·4	2·0	4·6	4·4	2·2	3·9	3·2	4·2	4·0	1·8
2–3	N.	254	46·1	11·8	57·9	45·7	6·3	28·0	15·0	76·0	22·8	1·2
	C.	215	34·4	9·3	43·7	17·7	5·6	21·9	5·1	74·4	21·4	4·2
	Difference		*+11·7*	+2·5	*+14·2*	*+28·0*	+0·7	+6·1	*+9·9*	+1·6	+1·4	−3·0
	S.E.		4·6	2·9	4·6	4·4	2·2	4·0	2·8	4·0	3·9	1·5
3–4	N.	270	46·7	14·8	61·5	33·3	5·9	30·4	8·1	82·6	15·9	1·5
	C.	184	37·0	13·6	50·5	13·0	9·8	19·0	6·5	74·0	22·2	3·8
	Difference		*+9·7*	+1·2	*+11·0*	*+20·3*	−3·9	*+11·4*	+1·6	*+8·6*	−6·3	−2·3
	S.E.		4·7	3·3	4·7	4·1	2·5	4·2	2·5	3·9	3·7	1·5
4–5	N.	226	45·1	16·4	61·5	29·6	2·2	30·5	8·0	85·4	13·7	0·9
	C.	142	35·9	17·6	53·5	12·0	4·9	17·6	6·3	75·4	20·4	4·2
	Difference		+9·2	−1·2	+8·0	*+17·6*	−2·7	*+12·9*	+1·7	*+10·0*	−6·7	*−3·3*
	S.E.		5·3	4·0	5·3	4·5	1·9	4·6	2·8	4·2	4·0	1·6
1/2–5	N.	943	43·2	12·2	55·4	36·9	5·0	28·1	11·6	80·5	17·7	1·8
	C.	1,067	28·7	8·0	36·6	16·6	6·3	19·2	8·5	77·1	19·8	3·1
	Difference		*+14·5*	*+4·2*	*+18·8*	*+20·3*	−1·3	*+9·9*	*+3·1*	+3·4	−2·1	*−1·3*
	S.E.		2·1	1·3	2·2	2·0	1·0	1·9	1·3	1·8	1·7	0·7

N. = children on nursery register for six months or more; C. = welfare-centre children. Significant differences are shown in italics.

the child had a "running nose" that day but it was not obvious at the moment of examination, owing probably to the child's having recently blown his nose). Any nasal discharge was included, either purulent or simple catarrhal. The proportion of children with observed nasal discharge was much greater among the nursery children than among the welfare-centre children, and the differences were significant for all ages combined, and for each separate age group except the youngest. Excluding those under 1 year old, nasal discharge was twice as common among nursery children as among welfare-centre

Mouth-breathing.—This was reported simply as "not present" or "present" at the time of the examination. Mouth-breathing was more frequent in the nursery group than in the welfare-centre group, and the difference between the two significant for all ages combined. In the individual age groups one male and two female age groups had significant differences.

Physical Signs of Bronchitis.—These were also reported simply as "not present" or "present." Bronchitis was more common among nursery children than among welfare-centre

children, and the difference for all age groups combined was significant among girls. In the individual age groups one female and two male age groups had significant differences.

Impression of General Condition.—The observers were asked to record their impression of the child's general condition as "very fit," "well," "fair health," or "poor health." Records on this point are obviously open to the criticism that doctors will differ in their classification. Nevertheless, it was thought worth while to obtain some indication of opinion, bearing in mind that with a large number of examining doctors individual variations may tend to be cancelled out. It is apparent from the individual records that, in general, the impression reported relates to the child's physique rather than to his state of general health, since many cases with well-marked evidence of respiratory infection were recorded as "well" or even "very fit." The classifications "very fit" and "well" have been grouped together in the tables. With the exception of the youngest age groups a larger proportion were described as "very fit" or "well" among the nursery children than among the welfare-centre children. The differences at ages 3–4 and 4–5 years for females and 2–3 and 4–5 years for males were significant.

Weight.—Table IV gives the mean weights for males and females in three-monthly age groups. The total number of children is rather less than in the other tables, since in a few instances weight was not recorded. The nursery children were, on the whole, heavier than the welfare-centre children, although only four of the 18 male age groups and two of the female age groups had differences that were significant.

Sex Differences.—The ratio of boys to girls in nursery group I is 5 boys to 4 girls, and the preponderance of boys is apparent at each year of age. There is a slight preponderance of boys in the welfare-centre group as a whole but not in each separate age group. Although a comparison of the health of boys and girls was not a primary object of the investigation, the following observations are of interest. Boys in the welfare-centre group showed a higher incidence of observed nasal discharge at all ages than did the girls, but there is no consistent difference between boys and girls in the nursery group. Boys in both the welfare-centre and the nursery group showed at all ages a higher incidence of the greater degrees of tonsillar-gland enlargement. The same is true of the incidence of mouth-breathing (except in the 4–5-year-old nursery children). There was no consistent difference between the sexes in either group in the incidence of "just palpable" tonsillar glands, nor of bronchitis.

Closely similar proportions of boys and girls were recorded under "very fit" or "well" and under "fair health" in each age group of the welfare-centre children, but there are considerable and inconstant variations of these proportions for boys and girls in the different age groups of nursery children. The mean weight of boys was higher than that of girls at nearly all ages, among both nursery and welfare-centre children.

Comparison of Nursery Children within One Week of Admission with Those in the Other Two Groups

Children in the two major groups (nursery group I and welfare-centre) showed considerable differences, especially in the incidence of respiratory infection, but the question remains whether these were the result of nursery environment or whether there was already a difference between welfare-centre and nursery children at the start of their nursery life. The records of the group who were examined within one week of admission to nurseries (nursery group II) throws light on this question. This group of 290 was made up of small numbers of children scattered all over the country, and may be regarded as reasonably typical of that section of the community from which the nursery population was drawn. It would be unreliable to compare the children in this group, age for age, with those in the two major groups, because of the small numbers. Nevertheless, they can be compared by calculating the observed and expected incidence of infection in the groups as a whole, using the incidence in the welfare-centre children of similar age and sex (as shown in Tables II and III) to calculate the expected incidence in the nursery groups. Table V shows this comparison. The columns headed "Observed Incidence" show the percentage of children in each group suffering from the various defects, as actually observed. Those headed "Expected Incidence" show what would have been the percentage affected in each group had the defects occurred in the same proportion at each year of age as they occurred at that age in the welfare-centre children. In other words, the table shows the incidence of infection that would have been expected had the nursery children been similar to the welfare-centre children in respect of respiratory infection.

TABLE IV.—*Comparison of Mean Weights of Children who had been Over Six Months on Nursery Register with Mean Weights of Welfare-centre Children*

Age in Months	Males					Females				
	Welfare-centre Group		Nursery Group I		Differences (Nursery less Welfare Centre)	Welfare-centre Group		Nursery Group I		Differences (Nursery less Welfare Centre)
	No. of Children	Mean Weight (lb.)	No. of Children	Mean Weight (lb.)		No. of Children	Mean Weight (lb.)	No. of Children	Mean Weight (lb.)	
6–	141	19·2 ± 0·24	13	19·2	0	114	17·9 ± 0·22	10	16·6	*−1·3*
9–	104	21·3 ± 0·26	30	20·3 ± 0·46	−1·0 ± 0·53	106	19·9 ± 0·26	24	20·0 ± 0·55	0·1 ± 0·61
12–	105	23·0 ± 0·25	44	23·2 ± 0·36	0·2 ± 0·44	95	21·6 ± 0·24	36	21·8 ± 0·43	0·2 ± 0·49
15–	63	24·8 ± 0·47	40	24·9 ± 0·42	0·1 ± 0·63	74	23·5 ± 0·29	25	22·6 ± 0·35	−0·9 ± 0·45
18–	71	25·5 ± 0·34	49	25·7 ± 0·34	0·2 ± 0·48	63	24·6 ± 0·34	40	24·1 ± 0·34	−0·5 ± 0·48
21–	52	26·7 ± 0·36	76	26·9 ± 0·35	0·2 ± 0·50	67	25·3 ± 0·32	54	26·7 ± 0·38	*1·4* ± 0·50
24–	60	28·0 ± 0·41	69	28·7 ± 0·40	0·7 ± 0·57	63	26·9 ± 0·35	67	26·9 ± 0·37	0 ± 0·51
27–	59	28·4 ± 0·42	71	29·9 ± 0·35	*1·6* ± 0·55	61	27·9 ± 0·43	46	28·0 ± 0·51	0·1 ± 0·67
30–	53	30·1 ± 0·41	89	31·2 ± 0·33	*1·1* ± 0·53	56	29·3 ± 0·41	73	29·9 ± 0·32	0·6 ± 0·52
33–	56	32·0 ± 0·45	83	31·9 ± 0·43	−0·1 ± 0·62	35	30·1 ± 0·59	65	30·9 ± 0·36	0·8 ± 0·76
36–	57	31·8 ± 0·48	101	32·5 ± 0·34	0·7 ± 0·59	60	31·0 ± 0·47	61	32·5 ± 0·39	*1·5* ± 0·61
39–	48	33·3 ± 0·48	84	33·8 ± 0·33	0·5 ± 0·58	43	32·8 ± 0·52	62	33·4 ± 0·43	0·6 ± 0·67
42–	40	34·2 ± 0·60	82	35·2 ± 0·35	1·0 ± 0·69	34	32·9 ± 0·66	67	33·2 ± 0·39	0·3 ± 0·77
45–	39	34·3 ± 0·62	87	36·1 ± 0·39	*1·8* ± 0·73	45	33·9 ± 0·44	77	34·8 ± 0·48	0·9 ± 0·65
48–	35	36·1 ± 0·80	76	37·2 ± 0·39	1·1 ± 0·89	48	34·9 ± 0·51	68	35·1 ± 0·40	0·2 ± 0·65
51–	21	39·3 ± 0·88	56	37·4 ± 0·55	−1·9 ± 1·04	37	36·7 ± 0·64	60	36·3 ± 0·51	−0·4 ± 0·82
54–	36	36·7 ± 0·71	78	39·6 ± 0·47	*2·9* ± 0·85	31	36·8 ± 0·92	43	37·6 ± 0·67	−0·2 ± 1·14
57–	33	39·1 ± 0·70	59	39·9 ± 0·51	0·8 ± 0·87	24	37·0 ± 0·85	54	39·1 ± 0·60	2·1 ± 1·04

Significant differences shown in italics.

TABLE V.—*Comparison of the Observed Incidence of Infection in Nursery Children with the Expected Incidence, based on Welfare-centre Children*

Evidence of Infection	Nursery Group II (Admissions)				Nursery Group I			
	Observed Incidence	Expected Incidence	Observed less Expected	Probability of the Difference occurring by Chance	Observed Incidence	Expected Incidence	Observed less Expected	Probability of the Difference occurring by Chance
	%	%			%	%		
Tonsillar glands:								
Just palpable	32·1	28·6	+3·5	0·5 > P > 0·3	42·2	32·7	+9·5	P < 0·01
Intermediate and grossly enlarged ..	8·3	10·3	−2·0	0·5 > P > 0·3	14·7	14·1	+0·6	0·8 > P > 0·7
All degrees of enlargement	40·3	38·9	+1·4	0·5 > P > 0·3	56·9	46·8	+10·1	P < 0·01
Observed nasal discharge	33·4	19·9	+13·5	P < 0·01	37·1	18·6	+18·5	P < 0·01
Mouth-breathing	27·2	23·4	+3·8	0·5 > P > 0·3	31·3	23·1	+8·2	P < 0·01
Bronchitis	9·0	9·5	−0·5	0·9 > P > 0·8	11·7	7·7	+4·0	P < 0·01

In the nursery admission group the differences between the observed and expected incidence of defects show that these children had in fact a slightly lower rate than might be expected of some defects and a slightly higher rate than expected of other defects, and that only for nasal discharge is the observed incidence considerably greater (by 67%) than the expected incidence. Statistical interpretation of these figures indicates that only for nasal discharge is the difference greater than might occur by chance. It should be remembered that these children were examined within one week of admission, not on the first day in a nursery. The fact that nasal discharge was the only evidence of respiratory infection in which the observed incidence was significantly greater than would be expected, and was, moreover, strikingly greater, suggests that a considerable proportion of these children had developed a cold during the first week after admission. Were this not so it would be reasonable to expect that the other signs of respiratory infection would have also shown significant differences between observed and expected incidence.

In the group of children who had been six months or more on the register of a nursery the observed incidence of infection is greater than the expected incidence for every defect recorded. The observed incidence is 100% greater than the expected incidence for nasal discharge, 29% greater for "just palpable" tonsillar glands, 22% greater for all degrees of tonsillar-gland enlargement, 36% greater for mouth-breathing, and 52% greater for bronchitis. The probability that the difference between observed and expected incidence is due to chance is negligible for every defect except "intermediate and grossly enlarged" tonsillar glands.

This comparison of the two nursery groups with the welfare-centre group indicates that the high incidence of respiratory infection in children who have been six months or more on a nursery register is not accounted for by significant differences between welfare-centre and nursery children at the start of their nursery life. The only difference between them was in respect of nasal discharge, but this was of doubtful significance, for the reason already given. Moreover, though the observed and expected incidences of nasal discharge were not the same in children within one week of admission to nurseries, there was a much greater discrepancy in those who had been in nurseries for more than six months.

The observed mean weights of the children at each year of age in the two nursery groups have similarly been compared with the expected mean weights based on the welfare-centre children, and the results are shown for males and females separately in Table VI. Although the observed mean weights for the admission group of children are in the main below the expected mean weights, the differences are not significant for the total of males or females. For the children six months or more in a nursery the differences between the observed and expected mean weights are significant in each age group over 2 years for both males and females, and for the total of males and females. For the group as a whole the mean weight of boys was 0.7 lb. (317.5 g.) greater than would be expected on the basis of welfare-centre children, and the mean weight of girls 0.5 lb. (226.8 g.) greater, in spite of the fact that there was no significant difference in weight between welfare-centre and nursery children at the start of their nursery life.

Discussion

The data show that children who had been on the register of a wartime day nursery for six months or more had a much higher incidence of respiratory infection than those attending welfare centres in the same localities. The difference was present in all age groups and in both sexes. When all the defects observed are taken into consideration the 2–3-year-old groups showed the greatest difference. Further, the increase in the evidence of respiratory infection was not attributable to significant differences between welfare-centre and nursery children at the start of their nursery life—with the doubtful exception of some part of the increase in the incidence of nasal discharge. On the other hand, the data show that the nursery children were on the whole heavier than the welfare-centre ones, and the differences between the observed and expected mean weights of the nursery children were significant for those over 2 years of age. In support of this, also, more nursery children were recorded as "very fit" and "well" in the upper age groups than in the same age groups of welfare-centre children.

The scope of the evidence is admittedly limited, but so far as it goes it does not indicate a beneficial effect of nursery life for the younger children—rather the reverse. There was a general increase of respiratory infection, to a significant extent in some instances, but no constant or significant improvement in physical development as indicated by weight or the doctor's impression of general physique. For the older children, the effect of nursery life, as reflected in the investigation, was partly adverse and partly beneficial. There was a considerable increase in respiratory infection, but also a definite improvement in weight and physique. Certain points should be borne in mind in considering these facts.

The investigation was planned solely with reference to certain aspects of the physical health of the children. It does not attempt to deal with the social or economic aspects of day nurseries, nor with their effect on the mental health and development of the children. Only wartime day nurseries could be considered—that is, nurseries run under difficulties inherent in wartime conditions. Such factors as unsuitable premises, long nursery hours with early-morning and evening journeys, shortage of staff, and inadequately trained staff may well have influenced the incidence of respiratory infection. But in the absence of data relating to large numbers of children in nurseries not handicapped by these conditions it is impossible to assess just how far such factors may influence the occurrence of infection when young children are congregated together. On the other hand, wartime conditions were not wholly unfavourable to day nurseries. The extra milk, meat, cheese, fats, and other foods available to nursery inmates, over and above their rations at home, made it possible for nursery children to have a more satisfactory diet than non-nursery children, who were limited solely to their share of the family rations, and this no doubt contributed to the improved physique of the former. This difference in diet might not be so marked under normal conditions when the purchase of food for children at home is not limited by rationing.

The evidence of respiratory infection was necessarily limited to the less severe conditions that did not preclude a child from admission to a day nursery or from being brought to a welfare

TABLE VI.—*Comparison of Observed Mean Weight of Nursery Children with Expected Mean Weight based on Welfare-centre Children*

Age in Years	MALES								FEMALES							
	Nursery Group II (Admissions)				Nursery Group I				Nursery Group II (Admissions)				Nursery Group I			
	No. of Children	Observed Mean Weight	Expected Mean Weight	Observed less Expected	No. of Children	Observed Mean Weight	Expected Mean Weight	Observed less Expected	No. of Children	Observed Mean Weight	Expected Mean Weight	Observed less Expected	No. of Children	Observed Mean Weight	Expected Mean Weight	Observed less Expected
1/2–1	28	19·6	19·9	−0·3 ± 0·5	43	20·0	20·7	−0·7 ± 0·4	24	18·8	19·1	−0·3 ± 0·6	34	19·0	19·3	−0·3 ± 0·5
1–2	45	24·6	25·0	−0·4 ± 0·5	209	25·5	25·3	+0·2 ± 0·2	45	22·5	23·6	*−1·1* ± 0·4	155	24·2	24·0	+0·2 ± 0·2
2–3	39	29·3	29·7	−0·4 ± 0·5	312	30·5	29·8	*+0·7* ± 0·2	28	28·2	28·7	−0·5 ± 0·6	251	29·0	28·6	*+0·4* ± 0·2
3–4	31	34·5	33·7	+0·8 ± 0·6	354	34·3	33·3	*+1·0* ± 0·2	19	32·2	32·5	−0·3	267	33·5	32·7	*+0·8* ± 0·3
4–5	10	36·4	37·7	−1·3	269	38·5	37·6	*+0·9* ± 0·2	15	36·6	35·9	+0·7	225	36·5	36·2	*+0·7* ± 0·3
1/2–5	153	27·7	27·9	−0·2 ± 0·3	1,187	32·2	31·5	*+0·7* ± 0·1	131	26·0	26·5	−0·5 ± 0·3	932	31·0	30·5	*+0·5* ± 0·1

Significant differences shown in italics.

centre. Wartime day nurseries have been used almost entirely for the children of mothers going out to work, and there is reason to expect that nurseries will continue to be used mainly by mothers who are at work or who have pressing domestic or housing difficulties. In these circumstances, mothers, and perhaps nursery staff, may tend to disregard minor ill-health, so as to avoid the hardship that may result from excluding the child from the nursery. Such a state of affairs may contribute to the incidence of respiratory infection, and in itself help to create the risk of such infection.

Conclusions

It is perhaps unwise to attempt, from these limited findings, to assess the value of day-nursery life to children, since many factors have necessarily been left out of account. The outstanding fact is the constant and considerable increase of respiratory infection, and the question arises of its importance in considering the well-being of a community of young children. The whole answer cannot be given without further research, and may well involve considerations which elude statistical investigation. This report deals with only one part of the investigation undertaken by the Day Nurseries Committee of the Medical Women's Federation. A further report is in preparation, and will cover work carried out by Dr. Margaret McLaughlin, on behalf of the Federation, in observing the health of children in day nurseries and welfare centres of one city over a period of twelve months.

From the collated observations of many independent observers here presented it can be said with certainty that they clearly demonstrate the existence of a high incidence of respiratory infection in wartime day nurseries, and that this constitutes a risk to health demanding careful consideration in weighing the value of day-nursery life to an individual child or to a community of children.

Grateful acknowledgment is made to Prof. Ryle and Dr. Russell, of the Institute of Social Medicine, Oxford, and to Sir Wilson Jameson, Chief Medical Officer, and Dr. Dorothy Taylor, Senior Medical Officer for Maternity and Child Welfare, Ministry of Health, for advice in planning the investigation; to medical officers of health for their co-operation; and especially to the many assistant medical officers of health whose work in examining the children made the investigation possible.

THE AFTERMATH OF PERFORATED PEPTIC ULCER

BY

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Perforation of a peptic ulcer is an accident of supreme importance to the patient, for it places his life in jeopardy. It also results in considerable economic loss, and as similar factors probably underlie the onset of peptic ulceration and the causation of perforation no apology is necessary for another review of this subject.

The incidence of peptic ulcer, especially duodenal, has risen enormously in the past 20 years (Tidy, 1944), and more especially in the early years of the recent conflict (Stewart and Winser, 1942). O'Donohue and Jacobs (1942) state that at their clinic there has been a 300% increase in the past 10 years. They quote De Bakey as stating that, in his experience, the incidence of peptic ulceration has risen from 443.7 per 100,000 hospital admissions in 1929 to 614.3 in 1938, and of perforation from 13.9 per 100,000 hospital admissions in 1929 to 78.3 in 1938.

Aim and Scope of Present Study

The following series is presented with full foreknowledge of its manifold defects. It represents an attempt to evaluate the late results of simple suture of perforated peptic ulcers in patients upon whom this operation had been performed 12 or more years previously. The material for this investigation comprised all cases of perforated peptic ulcer admitted to the Royal Victoria Infirmary, Newcastle, during the years 1929–32 inclusive. To these patients a questionary was sent which they were asked to bring to the hospital for completion, and examination, and, if this was impossible, to take to their local practitioner for completion. No effort was made to trace those who were more than 55 years of age at the time of operation, and in order to obtain a uniform standard all who attended hospital were examined by the writer.

Results

The total number of letters dispatched was 538, and replies were received from 244, or rather less than half. Of the 244 replies 33 contained the news that the patient had died in the interim—11 from various other causes, 6 from "stomach trouble," and 16 from causes not mentioned. Of the remaining 211, 170 attended for examination and 41 merely returned the completed questionary.

(*a*) INCIDENCE

One of the most disturbing features about the majority of recent reports on the subject of peptic ulceration is the large rise in numbers noted. Illingworth *et al.* (1944) in a recent comprehensive study reported a rise in admissions of perforated peptic ulcer cases from 200 in 1929 to 600 in 1940 in an area where population changes had been minimal. The incidence of perforated peptic ulcer appeared to have risen from 11 per 100,000 in 1924 to 25 per 100,000 in 1938. Other writers, as previously mentioned, have noted a similar upward tendency.

The area drained by the Royal Victoria Infirmary is extensive, and any tendency to change in the population has been in a downward direction. Thus the ratio of admissions for perforated duodenal ulcer to total surgical admissions should be a fair indication of any change in incidence.

Year	Total Surgical Admissions	Total Perforated Duodenal Ulcers	%
1926	7,192	186	2.59
1931	6,931	158	2.25
1937	6,862	181	2.64
1938	6,909	198	2.87
1939	6,785	199	2.93
1940	6,418	221	3.44
1941	6,181	242	3.92
1942	6,253	156	2.49
1943	7,113	202	2.84
1944	7,240	205	2.83

There has been a slight rise in incidence between 1926 and the years from 1938 onwards. The greater rise during the dark days of 1940 and 1941 would seem to indicate that the "functional" element in peptic ulceration has not received the attention it merits.

(*b*) MORTALITY RATE

Year	Total Numbers	Deaths No.	Deaths %	Ratio	
1939	178 R.D.U.	22	12.4	R.D.U.: R.G.U.	8.5 : 1
	21 R.G.U.	4	19.0	Male, 194: female, 5 ..	39 : 1
1940	193 R.D.U.	25	13.0	R.D.U.: R.G.U.	7 : 1
	28 R.G.U.	8	28.6	Male, 207: female, 14 ..	15 : 1
1941	217 R.D.U.	22	10.1	R.D.U.: R.G.U.	8.5 : 1
	25 R.G.U.	6	24.0	Male, 229: female, 13 ..	17.5 : 1
1942	138 R.D.U.	22	16.0	R.D.U.: R.G.U.	7.6 : 1
	18 R.G.U.	2	11.1	Male, 147: female, 9 ..	16 : 1
1943	184 R.D.U.	15	8.2	R.D.U.: R.G.U.	10 : 1
	18 R.G.U.	6	33.3	Male, 193: female, 9 ..	21.5 : 1
1944	190 R.D.U.	12	6.3	R.D.U.: R.G.U.	12.6 : 1
	15 R.G.U.	0	—	Male, 195: female, 10 ..	19.5 : 1

Several points of interest emerge from these figures. First, the large preponderance of males, the ratio of males to females being at least 15 to 1. Griswold and Antoncic (1941) found this ratio to be 26 to 1, and Berson (1942) 31 to 1. Secondly, the confirmation of the accepted figure of 8 to 1 for the ratio of ruptured duodenal ulcer to ruptured gastric ulcer. And, thirdly, the not inconsiderable mortality, and the improvement which sulphonamides have effected. I think the reduction in the mortality rate in 1943 and 1944 must be due in large measure to the correct use of drugs of the sulphonamide group, though it may not be out of place to record that in 1932 Gilmour and Saint reported a personal series, from this same hospital, of 64 cases with an overall death rate of 4.7%. This is an achievement of which they have every reason to be proud, as most published figures give a much higher rate. Donald and Barkett (1942) had

an 18.5% death rate, and Monro (1945) states that most hospital series show a mortality of 20 to 25%, with little change in the last 10 years.

Late Results

Of the 244 patients who were traced, 33 had died, as already mentioned, 41 replied by post, and 170 attended for examination. I have kept these two latter groups separate, as postal replies are notoriously unsatisfactory. It will be noted that in referring to results I have studiously avoided the word "cure," and have preferred to speak of those who have had no symptoms, or otherwise. This is the only accurate way to consider results, and gives an idea of how I tried to sift the cases. Any patient who gave a history of periodic attacks of indigestion, however mild, was classed as a failure; and in the cases examined, even if there was no such history, any sign of stomach retention or dilatation or duodenal tenderness was regarded as evidence of a still active lesion. This clinical assessment must be the most accurate available, since *x*-ray examination will always show a deformed duodenal cap after suture of a perforation (Lewisohn, 1928, 1937; Harrison and Cooper, 1942).

Replies by Post.—41 patients: 40 R.D.U. (no further symptoms, 14, or 35%; some further symptoms, 26, or 65%), 1 R.G.U. The ruptured gastric ulcer had had further symptoms. Of the 26 with symptoms, 12 had required some further operation—3 for another perforation, and the remainder mainly for pyloric obstruction.

Attended for Examination, 170 Patients.—This total included 4 women, two of whom had had perforated duodenal ulcers and two perforated gastric ulcers, each pair presenting one symptomatic cure and one failure. It also included 7 cases of perforated gastric ulcer; six of these had had further symptoms, and one was symptom-free. This leaves 161 cases of perforated duodenal ulcer for analysis, which may be classified broadly thus: no further symptoms, 61 (38%); further symptoms, 100 (62%). Of those patients who had further symptoms, 33 (33%) required further operation, 1 had had later perforations, 1 gastrectomy, and the remainder gastro-enterostomy or some form of pyloroplasty. These figures are instructive in that they show that at least 20% of patients suffering perforation of a duodenal ulcer require further surgical intervention, and that of those who fail to obtain relief after suture of a perforation at least 26% will need some further operative procedure. It would also seem that there is a better prospect of symptomatic relief after perforation of a duodenal ulcer than of a gastric ulcer, though the number of the latter is too small to permit definite conclusions to be drawn.

Factors Affecting Symptomatic Cure

In an attempt to discover the factors influencing the relief of symptoms, these results were further analysed in three ways: (1) The chronicity or otherwise of the ulcer at time of perforation. The type of ulcer was based on the length of history rather than on operative findings, which are not very reliable. (2) The age of the patient at time of operation. (3) Whether or not any attempt to remain on a diet had been made after operation.

Results of Analysis

(1) *Length of History.*—Of the patients tabulated below 38 (18.9%) said that the first indication of ulceration was perforation, and this was checked against the history given before operation. Of these, 22 had remained symptom-free and 16 had had later dyspeptic symptoms. From the table it would appear that in those who have suffered perforation of a duodenal ulcer the odds are about 4 to 3 in favour of recurrence, whether the duration of symptoms be long or short. However, when perforation is the first symptom of ulceration the chances are 3 to 2 in favour of symptomatic cure.

	History less than 1 Year		History more than 1 Year		Total
	Symptomless	Return of Symptoms	Symptomless	Return of Symptoms	
By post ..	6 (15%)	7 (17·5%)	8 (20%)	19 (47·5%)	40
Attended ..	26 (16%)	34 (21%)	43 (27%)	58 (36%)	161

(2) *Age of Patient at Time of Perforation.*—For this analysis the patients have been arranged in 5-year groups, and the percentage of symptomatic cures or failures in each group is expressed graphically (Figs. 1 and 2). When subdivided in this way the numbers in each group become relatively small, and inferences must therefore be drawn with caution. But it does seem that the prognosis is better in the higher age groups.

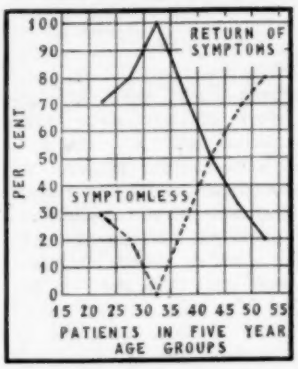

FIG. 1.—Showing results of perforation, at different ages, of those replying by post.

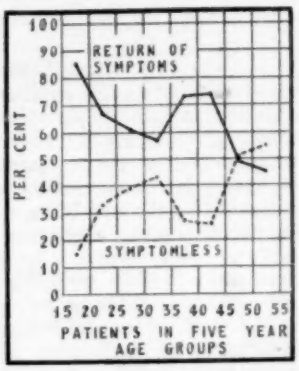

FIG. 2.—Showing results of perforation, at different ages, of those who attended for examination.

(3) *Effect of Diet.*—In this connexion dieting connotes a sincere effort on the part of the patient to avoid foods which disagree with him and to follow the main principles of dieting—i.e., regular small meals and avoidance of rough or highly seasoned foods. It is virtually impossible for most patients to follow a strict regimen outside hospital. Of the 40 patients who replied by post, 14 were cured of symptoms, and, of these, 6 (41%) dieted. Among the 26 with recurrent symptoms 13 (50%) dieted. Of the 161 who attended for examination, symptomatic cure resulted in 61 cases, 13 (21%) of them having dieted. Among the 100 patients who returned with recurrent symptoms, 44 (44%) dieted. These figures require caution in their interpretation, but they would seem to indicate that in perforated duodenal ulcers, dieting, unless of the strict nature possible only under hospital conditions, is of relatively little value. In this connexion it may not be amiss to consider the allied questions of the effects of alcohol and tobacco. The great majority of those who smoked before operation continued to do so afterwards, though sometimes reducing the amount, and the same finding obtained regarding the consumption of alcohol. Of the whole series 10 (4.7%) patients had given up or considerably reduced their consumption of tobacco. No non-smoker had started smoking after operation. Nineteen (9%) patients had become teetotal or almost so, but several who had never taken alcohol before operation turned to beer and even stronger beverages for solace afterwards. One rustic philosopher had discovered what Sir Hugh Devine (1940) has called the "water cure" for ulcer pain, and extolled the virtues of beer in "flushing acid out of the system." Many patients found beer necessary as a laxative, or discovered some other imperative reason for continuing their potations. Of the ulcer patient it may well be asked, "Can he change his habits?"; and it would seem that any treatment which depends for its success on such drastic change is doomed to failure.

Discussion

In the main the results of this investigation are confirmatory of work reported by other writers and bring little in the way of new facts to light. But some controversial points have arisen. For example, why should the incidence of perforation show such a slight increase in this area, where all the environmental factors are favourable to the production of such lesions—poverty and unemployment, old-fashioned housing, and heavy underground work?

Then there is the question of mortality. The fact that it is still high in spite of all modern aids should encourage practitioners to send all doubtful cases to hospital, as procrastination is so lethal.

The great difference in incidence of this complication between males and females is another perplexing aspect. Undoubtedly, aggravating factors are not so prominent in the lives of most women, and they have much better opportunities for regular meals. But it would seem that there must be some fundamental difference.

Perforated gastric ulcers are a great deal less common than duodenal, which is fortunate, as their mortality in general is much higher; over the whole six years for which figures were given, the mortality rate for perforated duodenal ulcer was 10.7%, while for perforated gastric ulcer it was 20.8%. This agrees with Tidy (1945).

The late results with reference to alleviation of symptoms are in agreement with those of most recent authors. In the period 1920–30 several reports of very high "cure" rates were published—e.g., Stewart and Barber (1922) reported 28 cures out of 37 cases treated by simple suture. In 1925 Grey Turner in a Hunterian lecture recorded 81 cures out of 120 cases, and in the ensuing discussion R. P. Rowlands said that only 25% had further symptoms. Pannett, writing in 1928, thought 50% were cured by simple suture. But towards the close of this decade more critical appraisal of results showed that only 30 to 40% of cases so treated remained symptom-free. Gilmour and Saint (1932) reported 64 cases, with 38% satisfactory afterwards, Sallick (1936) 9 cases symptom-free out of 33 cases traced, and Scotson (1933) 42% symptom-free after 3 years.

In the present series 38% of such patients have remained symptom-free 12 or more years after operation. This confirms the work quoted, and tends to support the belief that recurrences usually betray themselves within two years of operation or not at all. There are exceptions to this rule, which appeared to be true in the present series, though patients' memories are not entirely reliable. Five years is the longest interval after which symptoms recurred.

An old-established belief that the more chronic the ulcer the less the likelihood of cure is challenged by the figures I have advanced. The "cure" rate in those whose symptoms had lasted less than one year was 43% (26 out of 60), while in those in whom symptoms had lasted more than one year it was 42% (43 out of 101). Brown (1925) also challenged this belief, and stated that patients with no previous history fared worse, as regards return of symptoms, than those with long-standing histories. But of the 38 patients who had had no symptoms beforehand, 22 (57.9%) remained symptom-free, which would seem to indicate that in this group the prognosis is relatively good. And Gilmour and Saint (1932) had excellent results in all their cases with short histories.

One further point requires some elaboration, and that is the effect of diet on the rate of recurrence. Most authors are agreed that perforation should be followed by a strict medical ulcer regimen, and doubtless this counsel of perfection is the ideal towards which we should strive. But, human nature being what it is, ideals are seldom attained, and the figures I have gathered seem to suggest that nothing less than a strict diet is of any value. Only 21% of those who remained symptom-free after operation had made any serious attempt to diet, whereas 44% of those in whom symptoms recurred had made such an effort. Scotson (1933) stated that diet post-operatively had a very definite effect in reducing recurrence of symptoms. Cutler has always stressed the importance of such measures, and undoubtedly they *are* most important. The point I wish to make is the uselessness of half-hearted measures: if results are to be worth while a strict regime is essential.

Summary

The general results of simple suture in treatment of perforated peptic ulcers have been traced in a series of 244 cases which had been operated on 12 years or more ago.

The mortality rate of perforated peptic ulcer has declined since the introduction of the sulphonamide drugs.

Symptomatic cures were obtained in 38% of cases.

The prognosis with regard to symptomatic cure is better in patients with no preceding symptoms and in those in whom perforation occurs after the age of 45.

Diet, unless rigidly supervised and enforced, exerts little effect on the late results.

Alcohol and tobacco, although tending to aggravate symptoms, continued to be enjoyed by most patients accustomed to them.

I would like to thank all the members of the surgical staff of the Royal Victoria Infirmary, Newcastle-upon-Tyne, past and present, for permission to use and publish their case records. I should also like to thank Mr. Rodney Maingot for much helpful advice in the preparation of this paper.

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MENINGITIS DUE TO A PENICILLIN-SENSITIVE, SULPHONAMIDE-INSENSITIVE PITTMAN b STRAIN OF H. INFLUENZAE: RECOVERY

BY

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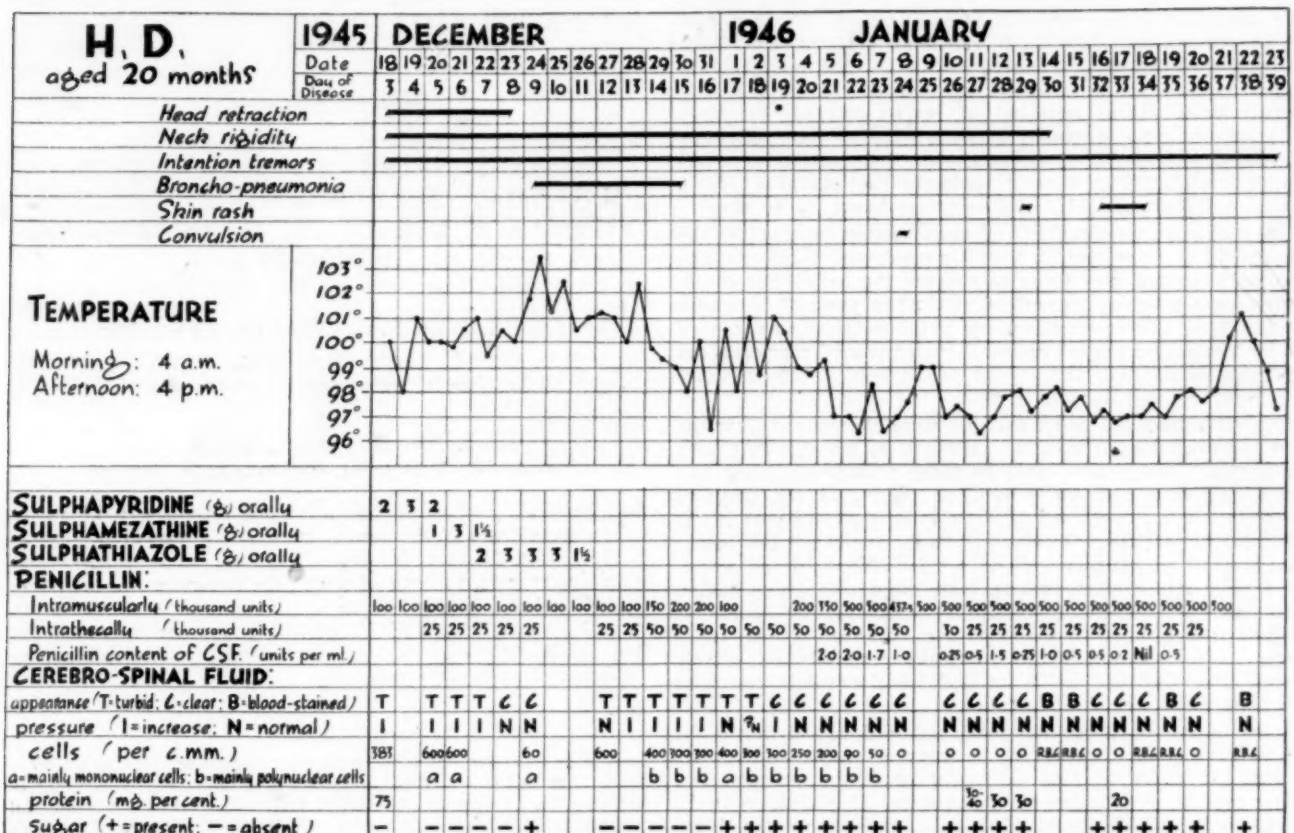
In a previous publication (McIntosh and Drysdale, 1945) a case of recovery from *H. influenzae* meningitis (Pittman b type) in a child aged 2½ years following treatment with penicillin and sulphamezathine, to both of which the organism was sensitive, was described. The following case is of interest since (*a*) the causal Pittman b type of *H. influenzae* was penicillin-sensitive but sulphonamide-insensitive; (*b*) recovery ensued after prolonged treatment with penicillin.

Case Report

A male child aged 20 months was admitted to King's Cross (Infectious Diseases) Hospital, Dundee, on Dec. 18, 1945, with a three-days history of stiffness of the right leg, tenderness of the spine, and vomiting. Examination revealed head retraction, presence of Kernig's sign, absence of abdominal reflexes, absence of knee-jerks, indefinite plantar reflexes; temperature 100.8° F. (38.2° C.), pulse rate 128, respiration rate 60. Lumbar puncture yielded a turbid fluid under increased pressure containing 383 cells per c.mm., of which 260 were red blood cells, and 75 mg. of protein per 100 ml. Sugar was absent. On Dec. 20 the preliminary bacteriological report stated that a micro-organism, probably *H. influenzae*, which was sensitive to penicillin and very slightly sensitive to sulphathiazole, but insensitive to sulphapyridine, sulphamezathine, and sulphadiazine, had been cultured. Detailed examination proved that the bacillus was a *H. influenzae* Pittman b type and quite insensitive to the above sulphonamides and also to sulphamerazine. *In vitro* tests showed that growth was noticeably inhibited in haematin broth containing 0.6 unit of penicillin per ml., and completely inhibited in a concentration of 0.7 unit per ml. Until the diagnosis had been established and full sensitivity tests completed 25 g. of sulphonamide (7 g. sulphapyridine, 5.5 g. sulphamezathine, 12.5 g. sulphathiazole), 125,000 units of Seitz-filtered penicillin intrathecally, and 900,000 units of penicillin intramuscularly were administered during Dec. 18–26. Thereafter penicillin alone was given. During the period Dec. 18–Jan. 21, 1,005,000 units were given intrathecally and 10,237,500 units intramuscularly (see Chart). The child's condition gave rise to anxiety until Jan. 10, when, with his reserves of strength almost depleted, and having made a good recovery from a convulsion (Jan. 8), probably induced by penicillin, he remained apyrexial, except for a slight elevation of temperature on Jan. 21 and 22, until he was discharged, recovered, on March 1. Clinically the most notable features of the illness were: head retraction (Dec. 18–23); the persistence of neck rigidity (Dec. 18–Jan. 14); intention tremors of

head and upper limbs (Dec. 18–Jan. 23); the occurrence of broncho-pneumonia (Dec. 24–30) despite the antecedent penicillin administration; the daily recurrence of a blotchy erythematous rash about two hours after the intrathecal injection of penicillin—appearing first on the thighs, then on the lower abdomen, followed by some blotchiness of the face, next morning found only on the thighs (Jan. 13, 16–18). The persistent nature of the meningeal infection is reflected also by the results of examination of the C.S.F. shown in the Chart. After the fluid had become clear and the culture sterile on Dec. 24, omission of lumbar puncture on Dec. 25 and 26 was followed by the recurrence of turbid C.S.F. on Dec. 27–Jan. 2 and by positive cultures on Dec. 27, 29, 30, and Jan. 3. Thereafter the pleocytosis diminished and a series of negative cultures was obtained. From Dec. 29 the daily intrathecal dose of penicillin was increased to 50,000 units until Jan. 8, on which date, owing to the occurrence of a convulsion about three hours after the injection, the dose was reduced to 30,000 units (Jan. 10) and to 25,000 units (Jan. 11–20). It is to be noted, however, that, using the method of Brodie (1945), the penicillin content of the fluid as estimated 20 to 24 hours after the previous intrathecal injection showed 2.0, 2.0, 1.7, 1.0 units, respectively, on Jan. 5–8 (average, 1.7 units). After the dose had been reduced to 25,000 units the daily values were only 0.5, 1.5, 0.25, 1.0, 0.5, 0.5, 0.2, *nil*, and 0.5 units, respectively, for the period Jan. 11–19 (average, 0.6 unit).



Discussion

In vitro sensitivity tests conducted by Gordon and Zinnemann (1945) showed that with 2.5 units of penicillin per ml. of medium the growths of 16 of 18 meningeal strains of *H. influenzae* were completely inhibited and those of the remaining two strains showed marked inhibition. Accordingly they recommended that it would be necessary to administer penicillin intrathecally (in addition to systemic dosage) so as to obtain a concentration of at least 2.5 units per ml. in the C.S.F. at the outset. "Later, more exact determination of the penicillin sensitivity of the particular *H. influenzae* strain isolated and assay of the penicillin content of the cerebrospinal fluid should serve as a guide to the further dosage to be given." The results obtained in the present case indicate that, even with a dosage of 200,000–500,000 units systemically and 50,000 units intrathecally daily, the penicillin content of the C.S.F. is, at least towards the end of the 24-hour period, not greater than 2.0 units per ml. (with an average of 1.7 units per ml. for four days). While this concentration was adequate, as judged by the *in vitro* tests, for the inhibition of the causal strain, a reduction of the intrathecal dose to 25,000 units daily, despite the continuance of 500,000 units daily systemically, resulted in a concentration of penicillin in the C.S.F. which was in excess of the minimum *in vitro* level on only two of the nine occasions on which estimations were made (average for nine days, 0.6 unit per ml.)

Smith, Duthie, and Cairns (1946), referring to the dangers of intrathecal treatment with penicillin, point out that excessive dosage (40,000 units and over at a single injection) may produce fits or other severe cerebral reactions when injected into the ventricles, or damage to the cauda equina or gumming of the subarachnoid space when injected by the lumbar route. In McIntosh and Drysdale's (1945) case myoclonic movements of the face, arms, and lower limbs occurred five minutes after an intrathecal injection of 50,000 units by the lumbar route, and in the present case a fairly severe convulsion took place about three hours after an injection of 50,000 units by the same route. In each of these cases the convulsion occurred after the meningeal infection had been brought under control, as evidenced by sterile cultures, and there seems little doubt that the reactions were directly due to the penicillin. Smith, Duthie, and Cairns (1946) suggest that a single daily intrathecal injection of from 3,000 to 16,000 units is usually adequate to achieve the 0.03 to 0.06 unit per ml. concentration in the C.S.F. necessary for the control of the pneumococcal infections they have encountered. The findings of McAdam *et al.* (1945) accord with the view that the passage of penicillin into the C.S.F. depends on the breakdown by inflammation of the blood–brain barrier. They were unable to demonstrate penicillin in the C.S.F. of any of seven normal subjects who received a dosage of penicillin intramuscularly varying from 100,000 to 500,000 units. In persons suffering from meningitis and post-meningitic encephalitis adequate amounts of penicillin passed into the C.S.F. The results are not expressed in units per ml., but it seems unlikely that the concentrations would have approached the levels required for the control of *H. influenzae* infections.

The findings in the present case suggest that the necessary concentration of penicillin required to inhibit *H. influenzae* may not be maintained unless dosages greater than 25,000 units intrathecally are given, daily.

Summary

A case of *H. influenzae* meningitis in a male child aged 20 months is described. The organism belonged to the Pittman b type, and was sensitive to penicilin in a concentration of 0.7 unit per ml. and insensitive to sulphapyridine, sulphamezathine, sulphadiazine, sulphathiazole, and sulphamerazine. Complete recovery followed prolonged treatment with penicillin.

Estimations of the penicillin content of the C.S.F. showed that concentrations between 1.0 and 2.0 units (average, 1.7 units) were achieved by daily intrathecal injections of 50,000 units and daily systemic injections of 200,000–500,000 units, while concentrations between *nil* and 1.5 units (average, 0.6 unit) were achieved by daily intrathecal injections of 25,000 units and daily systemic injections of 500,000 units. These findings indicate that intrathecal doses greater than 25,000 units daily may be required to combat *H. influenzae* infections. The dangers associated with this dosage are discussed.

We desire to thank Dr. W. L. Burgess, C.B.E., and Prof. W. J. Tulloch, O.B.E., for granting us facilities for the preparation of this paper, and Dr. J. Gordon, Senior Lecturer in Bacteriology, University of Leeds, for very kindly typing the organism.

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ACUTE ENTERITIS IN SUBTROPICAL CLIMATES

BY

IAN MACGREGOR, M.R.C.S., L.R.C.P.

Acute enteritis in subtropical climates is the cause of the loss of a great number of working hours, and is therefore a vital consideration in industry as well as to Forces in the field. It is, in fact, responsible for the loss of many times more man-hours than are lost from intestinal diseases such as typhoid or dysentery, which, though much more common than at home, do not normally reach a serious level, except in the event of a definite epidemic.

My attention was first drawn to the possibility that the cause of these cases of acute enteritis may be in some way related to the causative organism of upper respiratory infections by the fact that, while serving with the Royal Air Force in the Middle East, I kept a graph indicating the weekly incidence of these two conditions. A careful study was made of the incidence of acute enteritis as related to upper respiratory infections, and the possibility of a correlation between these diseases became apparent (see Graph)—a rise in one being accompanied by a corresponding rise in the other, and vice versa.

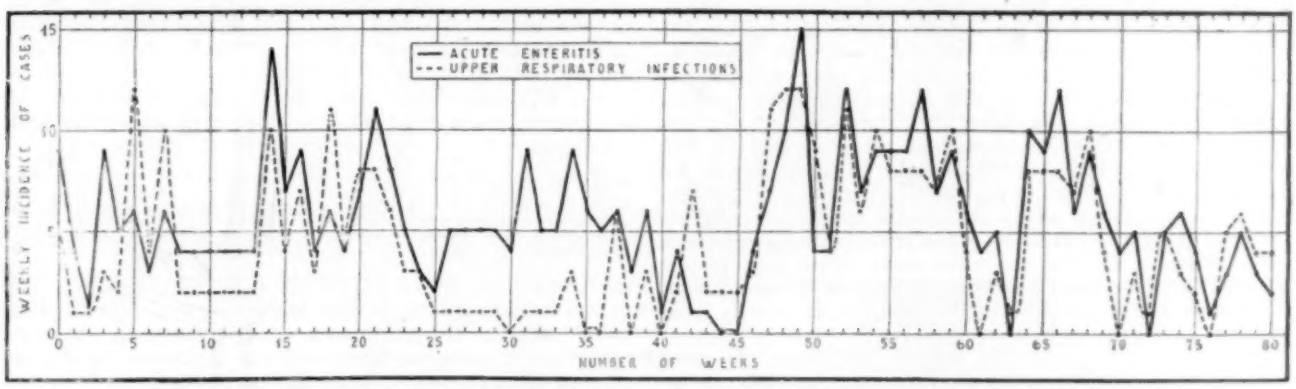
Over a period of 80 weeks observation was made of this relationship, and during that time the figures involved no fewer than 455 cases of upper respiratory infections and 357 cases of acute enteritis. The cases included in the statistics for upper respiratory infections were attacks of acute nasal catarrh and fresh cases of sinusitis. Cases of chronic nasal catarrh and chronic sinusitis with acute exacerbations were excluded for the reason stated later. The cases of acute enteritis taken were those of simple diarrhoea—i.e., those with loose frequent motions only, with no obvious blood or mucus. Microscopical examinations were carried out on the faeces of most of these cases, and the typical pathological report was: "Loose stool; no blood, mucus, or pus seen; culture, *B. coli* only"; or "Loose stool; some mucus with an occasional pus cell seen; no blood; culture, *B. coli* only." The occasional case the report of which proved it to be a true dysentery was withdrawn from the statistical figures. Pathological examinations were not carried out on swabs from the nose and nasopharyngeal cavities in either of the two conditions, as such swabs have frequently been investigated by other workers on upper respiratory infections and the common organisms usually present are well known to all.

The incidence of the two diseases in relation to climatic conditions and diet was also studied, and the following observations were apparent.

Climate

(*a*) Sandstorms and khamsins appeared to cause no increase in the incidence of acute enteritis or in fresh upper respiratory infections. This observation suggests that the pathology of subtropical acute enteritis is more complex than a mere irritation of the bowel. These storms did, however, produce a marked increase in the incidence of acute exacerbations of chronic rhinitis and sinusitis. It was this fact which induced me to exclude such cases from the statistical figures, as it appeared that there must be some slight difference in the pathology involved. Other observers have stated that sandstorms and khamsins have increased the incidence of acute enteritis, but this was certainly not so in this large series of cases.

(*b*) Climatic conditions conducive to the common cold—such as sudden cold spells after severe heat, a sudden fall in the night temperature after a very hot day—and men who admitted going to sleep on the top of the bed in the open air without pyjamas or bed-clothing, produced not only an increased incidence of acute respiratory infections, but a corresponding increase in the number of cases of acute enteritis. This was most pronounced at the beginning of a hot season, when Service dress was changed from the winter uniform to the thin summer khaki drill. The period over which these observations were made included two such occasions, and on each of them the incidence of both conditions showed a marked increase.



Graph showing weekly incidence of upper respiratory infections and acute enteritis in subtropical climates.

Diet

The observations were made at a base station in Egypt where rations arrived regularly, were always plentiful, and were more or less standardized, with only slight variations from week to week. There appeared to be no connexion between the incidence of acute enteritis and any one specific ration issue, except an occasional and obvious epidemic of acute food-poisoning that was traceable to one particular commodity in the week's issues. The recognition of such epidemics was made even easier by the fact that I was medically responsible for three

individual units, each of which drew its own rations independently of the others, so that when such an epidemic occurred it was usually confined to one camp. It was also noted that such epidemics were almost without exception accompanied by an acute gastritis.

The figures of these epidemics, too, were deleted from the statistics, as they obviously involved an independent pathology.

Discussion

The present general opinion in textbooks regarding acute enteritis must be borne clearly in mind—namely, that it is unconnected with any specific infection or disease, is caused by irritation of the bowel by sand or dust or by coarse and unsuitable food, and by exposure to chill.

If this condition was a simple irritation by sand or dust one would expect to find a marked increase in incidence during the khamsin season or following a sandstorm. In this particular series of cases such was certainly not the case. Further, one would expect to find a high incidence of associated acute gastritis; for, although the gastric mucosa is known to be much less sensitive than that of the intestines, one would expect an extraneous irritant such as sand or dust to prove sufficiently irritating to affect it. Apart from the oesophagus, the only other possible portal of entry for such irritants is the anus, the nervous control of the sphincter of which would immediately result in its contraction if stimulated by such an irritant, rendering entry most unlikely. Should entry occur by this route, however, the irritation would immediately set up peristalsis, which would prevent the irritant penetrating high into the bowel and bring about its expulsion within a very short space of time.

If the origin of the irritation was coarse or unsuitable food one would expect an increased incidence of the condition with particular food issues, and also a higher incidence of associated gastritis, but such was not the case. It was obvious, however, that when the enteritis was due to a more severe irritation—such as an extraneous poison, as seen in the cases of "food-poisoning"—the stomach was affected as well as the intestines, and an associated gastritis almost invariably resulted.

Considering the question of exposure to chill, observations show very definitely that under any conditions conducive to the common cold not only the incidence of acute enteritis is increased, but also that of upper respiratory infections. Workers in the field of paediatrics have recently inclined to the view that acute gastro-enteritis in infants is primarily due to invasion of the intestinal tract by a virus or group of viruses, and the damage to the mucous membranes thereby sustained renders them more vulnerable to the ordinary bacterial flora of that region, notably coliforms and enterococci—a view similar to that at present accepted by many authorities as the pathological explanation of the common cold. The same theory can be applied to the acute enteritis of the subtropics, and provides an explanation for the observations recorded above. The absence of an associated gastritis can be accounted for on the following grounds: (1) that the virus, in the first place, lodges in the nasopharyngeal cavity and reaches the intestines by invasion of the blood stream—a process proved to occur in certain other diseases; (2) that the virus gains direct entry to the intestinal tract from the nasopharynx through the oesophagus, the slightly higher resistance of the adult gastric mucosa being sufficient to protect it from damage by the virus as it passes through this organ; or (3) that, the bacterial flora of the adult stomach being different from that of the small bowel by reason of the high *p*H value of its contents, there are not the organisms to attack the mucosa when it has been damaged.

Conclusion

These observations suggest that the pathology of acute enteritis as it occurs in subtropical climates is more complex than that resulting from irritation by sand, dust, or coarse unsuitable food, and that the resistance of the intestinal mucosa is lowered either by chill or by the invasion of an unknown virus or group of viruses, rendering it vulnerable to the bacterial flora of that region.

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OVERDOSAGE WITH BROMIDES

A REPORT ON 59 CASES

BY

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Bromides are still very widely used, often as a placebo for patients with a psychoneurosis. It appears that the dangers associated with their prolonged administration have not been sufficiently stressed, although there have been a number of articles written on the subject (Pilkington, 1941; Kitching, 1942; Barbour *et al.*, 1936).

Bromides given in so small a dosage as 10 gr. (0.65 g.) thrice daily can sometimes produce a state of intoxication in an elderly patient within a few weeks. The amount of bromide in the blood appears to affect patients differently, probably according to their renal efficiency. In arteriosclerotic patients a blood bromide of 125 mg. per 100 ml. may result in signs of overdosage (the normal is less than 25 mg.), whereas young epileptics with a blood bromide of twice this figure have been seen apparently free from physical signs attributable to the drug. The present extensive use of bromides is hard to justify, for they are poor hypnotics and not very good sedatives. Sodium amytal 1 gr. (65 mg.) three times daily in acute cases of anxiety, or phenobarbitone 1/2–1 gr. (32–65 mg.) morning and night for the less upset and for the more elderly patients, are examples of much better sedatives.

The figures given in this paper were the result of the routine blood bromide estimations on 1,500 patients in a little over two years. The first 800 were continuous, and the last 700 were made on unselected cases, but owing to absence of the laboratory staff there were gaps in the continuity. Many of the figures for the bromide estimations are low, as it was often three to seven days after admission before estimation could be made, while many of the cases had previously been in an observation ward for about the same period before admission.

Incidence of Raised Blood Bromide

A blood bromide of 125 mg. per 100 ml. or over was present in 4% of admissions, and the very wide use of these drugs is reflected in the 34% of admissions in which the value was over 25 mg. It is interesting that Garrard (1942) found, among 1,042 consecutive admissions to the North Carolina State Hospital, that 4% had a blood bromide of 150 mg. per 100 ml. or over, and 27.5% a figure of 50 mg., the corresponding values in this series being 2.4% and 22%. The figures in this series are also very like those of Tod (1942).

The following Table shows the numbers of patients with the various levels of blood bromides found among the 1,500 admissions:

Blood Bromide in mg./100 ml.:	<25 (Normal)	25–49	50–100	125	150	175	200	225	250	275	300
No. of cases:	994	329	118	23	12	11	5	1	2	3	2

It will be seen that there were 59 cases with a blood bromide of 125 mg. per 100 ml. or over—that is, they were above the minimum intoxication level—and the following results are derived from an investigation of these cases.

The Table below gives the age incidence in this series of 59 compared with the total admissions to hospital in the corresponding period:

Age:	<25	25–34	35–44	45–54	55–64	65–74	75 and Over
% of cases with blood bromide of 125 mg./100 ml. or higher	7	12	20	24	20	12	5
% of total admissions to hospital in these age groups	13	17	19	16	14	11	9

The expected increase in high bromide values with age is not as well shown as might be anticipated.

Physical State and Bromide Intoxication

The *rash* is rarely found in cases of bromide intoxication, since it is usually an early sign of intolerance. In this series a pustular rash was seen in 3 patients.

Neurological signs are often found as evidence of bromide intoxication, and 20 of the 59 patients showed some abnormalities. In 12 there were ocular signs such as sluggish, unequal, or irregular pupils, nystagmus, or ptosis; in a further 8 there was ataxia, headache, slurred speech, weakness, or retention of urine.

Anorexia is not infrequent, and a condition is sometimes seen in bromide intoxication in which there are signs suggesting a likeness both to general paralysis and to disseminated sclerosis. This is probably a reflection of a vitamin B lack, as may, for instance, be the somewhat similar alcoholic pseudo-paresis. During their stay in hospital 4 of the patients lost more than 7 lb. (3.17 kg.) in weight, 11 gained more than 7 lb., 8 gained over 14 lb. (6.35 kg.), 1 gained 2 stones (12.7 kg.), and 2 gained more than 3 stones (19.05 kg.).

Physical illness was common among the patients with high blood bromide readings: 5 had some cardiac insufficiency, 2 chronic bronchitis, 2 a cerebral thrombosis, 2 were recovering from pneumonia, while other conditions found were pernicious anaemia, duodenal ulcer with secondary anaemia, a carcinoma of the oesophagus, and migraine. Six patients were seriously ill on admission, their blood bromides being 300, 300, 200, 150, 150, 125. The subsequent improvement of 5 suggests that, at least in part, their serious state was due to this cause. It was likely that the bromides contributed to the death of the sixth patient; this has previously been suggested in other cases (Pentreath and Dax, 1937; Kitching, 1942).

Among the 59 patients there were 7 deaths within a year of admission. Albumin was found in the urine in 8 of the 56 cases in which records of urine testing are available. No fewer than 5 of the 7 deaths occurred among these 8 cases. In 12 patients there was gross thickening of the peripheral arteries, and 10 of the 47 in whom the blood pressure was recorded had a diastolic reading of over 100 mm. Hg. The blood urea was estimated in only 13 of the cases; in 6 the reading was between 40 and 50 mg. per 100 ml., and in one it was 196 mg.; the remaining readings were under 40 mg.

In 19 of the 59 cases the blood sedimentation rate was greater than 8 and 16 mm. with a 200-mm. Westergren column. In 4 of the 19 no satisfactory explanation was discovered, but there did not appear from the present series of figures that there was any proper evidence to support a relationship between a high blood bromide and a raised sedimentation rate.

Mental State

The following Table illustrates the various psychiatric illnesses from which the patients suffered on admission:

	No. of Cases
Senile and arteriosclerotic dementia	15
Psychoneuroses	12
Depressive states	12
Schizophrenia	6
Paraphrenia	5
Mania	2
Epilepsy	2
Other conditions	5

It appears that the symptoms in 13 of the cases were largely due to the bromides. Some special form of psychiatric treatment was required by 26 of the 59 before discharge, in 17 electrical convulsion therapy was given, 4 had insulin comas, and 2 modified insulin shock therapy. Sensenbach (1944) lists confusion as the commonest symptom; it was found in 18 of his 49 cases, and 15 were in stupor. Of the present series 14 showed much confusion but only 2 were stuporous.

Treatment

When the blood bromide is 100 mg. per 100 ml. or higher the usual treatment is to give common salt by the mouth in beef-tea or with sugared cordials; in this way 2 or 3 drachms (8–12 g.) of salt can easily be given in a day. If the blood bromide is over 200 mg. it is usual to give rectal salines in addition, while intravenous salines have been used on a number of occasions. Vitamins are always added to the diet in these cases. In most instances the blood bromide becomes normal in about two to three weeks, but in 2 of these patients it changed very little in the first month. Improvement in the mental state may lag behind the elimination of the bromides even though it is induced by their use.

Of the 59 cases with high blood bromides, 46 were discharged, 7 died, and 6 remain in hospital. The length of stay in hospital is shown in the following Table:

Time in Months:	<1	1–3	3–5	5–7	>7
Number of patients	4	18	13	4	7

In conclusion, it may be stressed that a number of the symptoms for which bromide is often prescribed may actually result from the drug itself; therefore an increase in dosage should be avoided if the condition becomes worse. It is unfortunate that the teaching in regard to the therapeutic uses of bromides, and in particular for the treatment of epilepsy, has lagged behind clinical knowledge. As bromides are easily obtained, a number of cases of self-intoxication arise; 7 of the 59 in this series occurred in this way. It is therefore important to be prepared to treat these cases as well as to guard against their causation.

Summary

Not only are bromides of less therapeutic value than their wide use would indicate, but they are dangerous drugs to use on certain patients.

Their prolonged administration, even in small doses, often produces intoxication.

Fifty-nine cases with high blood bromides have been examined.

I would like to thank Dr. W. A. Hulme, of the laboratory staff, for the estimations.

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Medical Memoranda

Laryngeal Foreign Body

The main interest in the following case is the fact that such a small child could harbour such a large foreign body in its larynx for four months and survive.

A male child aged 11 months was admitted to a medical ward of the Belfast Hospital for Sick Children on Aug. 11, 1945, with the diagnosis of laryngismus stridulus. The mother gave the history that he had been a healthy baby until 4 months before, when he had taken "cramp" and was admitted to a provincial hospital with the diagnosis of bronchopneumonia and diphtheria. He was discharged after two weeks. Three weeks later he was readmitted as a case of rickets, and remained in hospital for 10 days. Since then he had been having sun-ray treatment, but his condition had not improved.

FIG. 1.—The foreign body.

He perspired freely and coughed up mucus and there was some vomiting. He was taking feeds (Sister Laura's food) fairly well and slept well. His chest had been *x*-rayed in the out-patient department, and reported normal. His temperature on admission was 99.6° F. (37.55° C.). There were extreme wasting and evidence of rickets:

his weight was 11 lb. (5 kg.). Nothing definite was noted on clinical examination of chest or abdomen. The Mantoux reaction was negative.

During the next three weeks he vomited frequently and did not take feeds well. An attempt was then made to pass an oesophageal catheter, but this failed. Three days later I was asked to see him. He was extremely wasted and appeared to have some laryngeal obstruction. The same evening I performed a direct laryngoscopy without anaesthesia. On exposing the larynx a foreign body was seen to be impacted in the larynx between the true vocal cords. After some difficulty, as the only instrument available at the moment was a pair of Mackenzie's forceps, the foreign body was removed and found to be a metal rivet 1/2 in. (1.27 cm.) long, the base having a diameter of 1/2 in. (Fig. 1). There was no evidence of

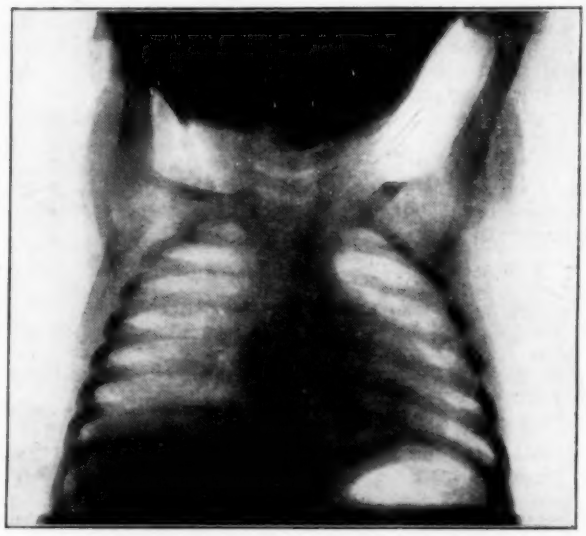

FIG. 2.—Skiagram showing the foreign body impacted in the larynx.

oedema following the manipulation, and the child improved at once. He was discharged 10 days later, having gained 2 lb. (0.9 kg.).

After the child had been discharged it struck me that the skiagram of the chest would include the larynx in such a small subject. The plate was obtained, and the foreign body was plainly visible (Fig. 2). It may have been seen in the first place and thought to be something in the child's clothing.

I wish to thank Dr. Rowland Hill for permission to publish this case.

KENNEDY HUNTER, M.B., B.Ch., F.R.C.S.Ed., D.L.O.

Lingual-nerve Block for Calculi in Wharton's Duct

A patient was seen with a large calculus impacted near the orifice of Wharton's duct. The lingual nerve is the only sensory nerve of the floor of the mouth between the midline of the tongue and the alveolar margin, and it occurred to me that a block of this nerve would meet the analgesic needs for the removal of a calculus in the oral part of this duct. I blocked the nerve, and an ideal analgesia resulted. The calculus was removed without discomfort to the patient. This was in sharp contrast to my previous experiences with surface and local infiltration analgesias. The former is inadequate, and the latter obscures the calculus and the anatomy. Neither is satisfactory. The ordinary textbooks do not mention the use of lingual-nerve block for this commonplace minor operation, nor are my colleagues acquainted with it; therefore this short note may be of interest.

TECHNIQUE

The internal oblique line of the mandible is a sharp ridge of bone which descends from the coronoid process to bound the retromolar fossa medially; the pterygo-mandibular ligament is attached to it just behind the third molar tooth at an acute angle. This angle is the anterior wall of an areolar space between the ramus of the mandible and the superior constrictor of the pharynx. The lingual nerve descends in this space and is most superficially placed behind the lowest part of the angle. A finger in the retromolar fossa will identify the internal oblique line, and just medial to it is the pterygo-mandibular ligament. If the finger-nail is facing inwards it will guide the injecting needle to the lingual nerve. 2 ml. of 2% procaine with adrenaline will produce complete analgesia in five minutes.

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Reviews

SOCIAL MEDICINE IN FRANCE

Les Directives de la Médecine Sociale. Médecine de Soins: Médecines de Prophylaxie. By Noël Fiessinger. (Pp. 300. 230 francs.) Paris: Masson et Cie. 1945.

It is not sufficiently realized in this country how great is the debt to France for her example in social legislation. The pioneer work on maternity and child welfare and social insurance has usually been one step ahead of us, in conception at least if not in practice. The "Revolution of Our Times" in social matters has been progressing steadily in France even under the German occupation, and in this book, *The Code of Social Medicine*, authoritative views are expressed on some important aspects of social medicine by a widely representative series of writers under the editorship of Dr. Noël Fiessinger.

Recent legislation has increased the amount and scope of social insurance, which differs chiefly from our present and contemplated systems in a lesser contribution by the State and correspondingly high contributions by employer and employed. Thus at present the comprehensive payment is 16% of wages, of which the employer pays 10% and the employee 6%.

In the medical service, which corresponds to our National Health Insurance scheme, the upper income limit for participation is 60,000 francs per annum. The patient and his dependants are insured. They have free choice of an approved society, although apparently some pressure is exerted by big firms for their workers to join the firms' mutual benefit societies. As regards doctors the patient is given a free choice, and he may consult any doctor at any time. He pays his fee "on the spot" on a fixed scale for the consultation or treatment, and the doctor signs his insurance card as a receipt. The patient gets the fee returned on presentation of the signed card to his society. The benefits, in addition to a general practitioner service, include provision for antenatal care, home or hospital care at time of delivery, sickness benefits, and pensions for invalidism—the last for the insured himself only. The patient has free choice of a hospital and his society pays 80% of the cost, the remainder being found by the patient.

The medical service is in process of change, and there is evolving a system of centres for general practitioner consultation with a central clinic to which cases are sent for specialist consultations. The Assistance Médicale Gratuite seems to be organized very much as in this country. The responsible department is the local authority, and patients may go to any doctor on an approved list. The local *maire* keeps a list of those entitled to free medical attention. All ex-Service men are entitled to free medical attention and have free choice of doctor. A new corps of medical inspectors of factories was formed in 1941, and is developing into a complete Industrial Medical Service whose organization might well be studied in this country before the omissions from Mr. Bevan's proposals are remedied.

The progressive "socialization" of the profession in France is well illustrated by the passing of the "conseils de l'ordre." These local bodies which governed professional conduct in all professions have had their names changed (for that would appear to be the sum of it) to "syndicats." The change might be described as from a "trade guild" to a "trade union."

We have not heard much from our French colleagues during recent stormy years, and this book is a useful reminder that we should do well to avoid complacency in our own institutions until we have more detailed knowledge of progress made in France and other countries.

PSYCHIATRY IN MODERN WARFARE

Psychiatry in Modern Warfare. By Edward A. Strecker, M.D., Litt.D., LL.D., and Kenneth E. Appel, M.D., Sc.D. (Pp. 88. 6s.) New York: The Macmillan Company.

This is a short but very interesting and important book. Two psychiatrists of great experience who have served in both world wars sum up their conclusions, first on the nature and incidence of psychiatric conditions and secondly on the difficulties and requirements of demobilization and rehabilitation. It would

appear that the lessons of World War I were not applied as they ought to have been in the United States either in selection of recruits or in establishing sufficient personnel to deal with psychiatric casualties which have been not only actually but relatively higher in World War II. This the authors attribute to the greater terror of modern warfare and also to greater calls for adjustment to climatic and other conditions arising in tropical and arctic warfare.

In the recent war there has been more anxiety and less hysteria, and fear has been more exclusively the emotion underlying conflicts. The most striking feature has been the large incidence of psychosomatic troubles, though this may have been due to their more ready recognition, but the manifestations have been much more commonly in the digestive system than in the circulatory system, which loomed so largely among the invaliding disabilities of the first war.

In the second part the authors stress the difficulties now confronting the returned soldier and his family, his employers and his community, in the process of readjustment, which call for real understanding and patience and not sentimentality and stereotyped methods. They sound a note of warning on the very large numbers of men who have been discharged for psychiatric conditions and the inadequacy of the provisions to meet the need. No one should grudge the time spent on this little book of 88 pages; readers will be richly rewarded in interest while their ideas and social consciences will certainly be stimulated.

ATLAS OF DERMATOLOGY

An Atlas of the Commoner Skin Diseases. By Henry C. G. Semon, D.M., F.R.C.P. Third edition. (Pp. 343; with 139 plates reproduced by direct colour photography from the living subject. Photography under the direction of Arnold Moritz, M.B. 50s.) Bristol: John Wright and Sons. 1946.

This deservedly popular atlas of dermatology has now reached a third edition. Although, as the author states in the preface, no atlas can take the place of a standard textbook, and still less can it serve as a satisfactory substitute for actual clinical inspection of cases, it is extremely useful both to the student and to the teacher of dermatology. In particular the practitioner to whom the facilities of a large dermatological clinic are not readily available will find it very helpful when confronted with a puzzling manifestation of skin disease (and there are many such) and he may thereby have a much better chance of arriving at a correct diagnosis, while the specialist teacher at whose feet a class of students cluster will find his powers of exposition greatly aided by having this atlas available so that he can show them pictures to compare and to contrast with the clinical conditions actually before them.

The photography in the present volume reaches the high level which the former editions would lead us to expect, and perhaps Plate CXVIII—necrobiosis lipoidica, specially mentioned by the author in his preface—is outstanding as a representation of a condition very difficult to render in a lifelike manner. But we must add that in a few instances the colour values do not seem quite correct, the reds are too purple; and why in the plate of naevus verrucosus (LXXVIII) is the hair dyed green? But anyone who has attempted colour photography will not withhold sympathy, for the difficulties in obtaining lifelike colouring are immense, and for the most part they have been successfully overcome in this atlas. We again recommend it to the profession.

HAPPINESS IN MARRIAGE

Marriage and Freedom. By Dr. Eustace Chesser. (Pp. 149. 12s. 6d.) London: Rich and Cowan Medical Publications.

The author is one of those who have studied and written about the question of sex education for children, a subject the importance of which the Government has now openly recognized. Too often, however, sex education has been confined to the physiological facts of life and has meant no more than an anatomical, physiological, and sometimes pathological disquisition on coitus. While no one can doubt that the fog of ignorance and prejudice which surrounds the subject of physical union is thoroughly bad for society and the future of the race, and that without enlightenment of young people marriage can hardly be expected to be successful, there is "more to matrimony" than mating and child-bearing. In this book, while the physical aspects still loom largely, the author has endeavoured to touch on the wider questions of the economic and social background. Marriage should be a companionship in every sense of the word except, according to the author, that of the trial trips called companionate marriage advocated by Judge Lindsey. The wife has a right to an equal status and freedom in every aspect. She should be enabled to get full enjoyment of the physical union, and this will depend on the patience, understanding, and skill of the husband. She should be free to enjoy the company of her own friends and free to manage her own share of the family income, and in all these respects the husband, of course, should be equally free. But, as has often been said, freedom is not licence, and can only be enjoyed with a full sense of responsibility and a measure of self-control which is, to say the least of it, difficult for most people.

What is wanted to bring about happiness in marriage is knowledge, tolerance, and clear thinking, and these are specially necessary for ministers of religion, who ought to be, but too often are not, the helpful advisers of young people about to marry. All these matters the author discusses in simple language, and his book may well serve as an introduction to that wider sex education which is so necessary for human happiness.

Notes on Books

The Mentally Ill in America, by ALBERT DEUTSCH, is published in New York (Columbia University Press) at $4, and in London by the Oxford University Press at 26s. 6d. The author has produced a painstaking and illuminating history of psychiatry in America. Naturally it will be of greatest interest to Americans, but it will repay study in this country because of the continuous close association between the social and cultural institutions of the two nations which still pertains to-day, especially in medicine. The first chapter is devoted to the theories of demoniac possession which were held by the ancients, after which an exposé is given of the astonishing cruelties, prejudices, and superstitions which marked the treatment of the mentally afflicted in the 17th and 18th centuries. A good historical survey follows of the dawn of light due to Pinel and Tuke in Europe and Benjamin Rush in America. Real progress, however, had to await the foundation of the mental hygiene movement by Clifford Beers and the work of such men as Adolf Meyer, Healy, and many others. Meanwhile the public conscience had been roused by the accounts of the terrible conditions in the asylums given by Dorothea Lynde Dix. Chapters on the progress of American medical and social provision for mental deficients and on the relation of psychiatry to the criminal law are of great interest. Finally, the future trends of mental hygiene are outlined and Dr. Deutsch rightly points out that it is not only the individual patient who must be considered but the social milieu in which he has to live. Until mankind can construct a world in which the "four freedoms" really pertain we cannot expect much real improvement in the mental health of the community.

The librarian of the Royal Medico-Psychological Association should properly be at once an expert in diseases of the mind and a connoisseur of literature, and in *Analecta Psychiatrica* (H. K. Lewis and Co.; 16s.) Dr. J. R. WHITWELL shows how well he fits this dual role. In the first part he presents to us his collection of quotations relating to mental disorders which he has culled from the whole gamut of literature from Plato to the moderns. In the second part he gives brief notes on historical personages who were mentally afflicted in one way or another. As a bedside book for the psychiatrist this could hardly be bettered, and those who like to illuminate their own writings with "tags" from the work of their forebears will here find a rich store from which to draw.

We welcome a second edition of *Psycho-Analysis and its Derivatives*, by Dr. H. CRICHTON-MILLER (Oxford University Press; 3s. 6d.). Since the time of its first appearance knowledge of the whole subject has become much more widely diffused, and therefore popular interest may be more concerned with the chapters which criticize and compare than with the brief lucid descriptions of the teachings of Freud, Jung, and Adler which were once so valuable. Especially may we commend the attention of readers to the exposition of the work of Prinzhorn, too little known in this country, which puts the whole subject on a much wider philosophical basis and with a due sense of values. In the appendices are notes on the more recent advances, including methods of shortening treatment such as narcoanalysis and Steckel's method of "direct attack." It is pointed out that the success of convulsion therapy in certain psychoses makes it highly improbable that these conditions are wholly psychogenic. In addition there are appreciative memoirs of ten distinguished medical psychologists who have died since the publication of the first edition.

Nova et Vetera

JOSEPH-IGNACE GUILLOTIN (1738–1814)

Physician and Reformer

It is singularly unfortunate that this worthy physician is remembered for his suggestion that judicial execution should be accomplished by mechanical means, while his humanitarian writings and actions are forgotten. Even numerous biographical notices, though making clear that his name was wrongly given to the guillotine, barely mention his medical career during the revolutionary terror or his valuable reports on vaccination and other medical matters.

Guillotin was born at Saintes, was educated in a Jesuit school, joined the Order and taught for some time in the Irish Jesuits' High School in Bordeaux. He then decided to leave the Order and in 1763 began to study medicine in Paris, but took his degree in Rheims on Jan. 7, 1768. In February of the same year he obtained a scholarship and was granted a professorship in the Medical Faculty in Paris; this he held from 1778 to 1783. In 1784 the King appointed a Commission to investigate the claims of Charles Deslon (1750–86), a practitioner of mesmerism who had many supporters at Court. On this committee were Benjamin Franklin (1706–90), Antoine Laurent Lavoisier (1743–94), Sylvain Bailly (1756–93), and several other scientists. Guillotin was consulted and apparently helped to draft the report, but did not sign it. The Commission concluded that no magnetic fluid could be detected in the famous tub.

Guillotin wrote: *Pétition des citoyens domiciliés à Paris* (Paris: Clousier, 1788); in this he appealed to the King to grant representation to the Third Estate in proportion to their numbers—which was allowed. He was then elected to the National Assembly, which in October, 1789, discussed various penal reforms; Guillotin took an active part in these debates, in the course of which he pleaded that death sentences should be equalized and carried out by means of decapitation through mechanical means. It must be explained that at the time commoners sentenced to death were hanged, while noblemen had their heads cut off. On Dec. 1, 1789, carried away by his zeal for reform, Guillotin expressed himself thus: "Avec ma machine je vous fais sauter la tête en un clin d'œil et vous ne souffrez pas." This remark was received by the Assembly with loud laughter, but it can be said that mechanical means for judicial decapitation had been known and employed in England, Scotland, Germany, and Italy for centuries; so that Guillotin was not proposing a novelty. It was not until June 3, 1791, that this suggestion was considered, and in May, 1792, the advice of a surgeon, Antoine Louis (1723–92), was obtained, who designed a diagonal edge for the falling knife. Next, the estimate of a carpenter named Guedon proved far too expensive—5,660 livres; so a tender for 820 livres of a German musical instrument maker, Tobias Schmidt, was accepted. Schmidt was a friend of the executioner Henri Sanson *fils* (1767–1840), both being violinists.

The contrivance, when first constructed, was called *la Louison* or *la Louisette*, and was tested on sheep and five dead bodies. On April 25, 1792, it beheaded a highway robber, Nicolas Jacques Pelletier; then on Aug. 21, 1792, the first political victim was executed, Louis David Collinot d'Augremont. The guillotine functioned daily in Paris from April, 1793, to 10 Thermidor IInd year = July 28, 1794; during this time 2,625 persons were beheaded. History books mention far larger numbers, but the total would include provincial towns, where revolutionary tribunals also sentenced political suspects to death. The name "guillotine" soon became popular as the outcome of a song in the royalist journal *Les Actes des Apôtres* No. 10—though Dr. Guillotin was far from being flattered by the attribution.

In the National Assembly, Guillotin sat on a Comité de Salubrité, the secretary of which was Jean Gabriel Gallot (1743–94); here Guillotin was steadfast in his support of sound medicine and sensible hygiene; he adopted many of the proposals made by Félix Vicq d'Azyr (1748–94) and suggested that all matters pertaining to the prevention of disease in man and animals should be controlled by a Conseil de Santé; that examinations in four principal medical schools should be in French; that surgeons should complete their studies in the medical faculty and the diploma should entitle them to practise medicine and surgery everywhere in France; that children should receive physical training. *Projet de décret sur l'enseignement et exercice de l'art guérir, etc.* (Paris: Imp. Nat. 1791.)

In August, 1792, the Legislative Assembly abolished all "privileged associations"; these included academies, universities, faculties, and learned societies, since republican zealots decided that medicine was an aristocratic profession, that physicians were charlatans, and that the Revolution provided the only true path to liberty, equality, and fraternity. It must be admitted that these destructive decisions received the support of men with a medical education, like Marc Antoine Baudet, François Bousquet, Dr. Choffinal, Jean Baptiste Bò (1753–1811), and Ferdinand Pierre Guillemardet (1765–1809). The physician René Georges Gastellier (1741–1821), who tried to protest, would have gone to the scaffold had he not been saved by the timely death of Robespierre on July 28, 1794. These revolutionary decrees were not popular and the people soon asked for hospital treatment; and from the end of 1793 onwards eminent medical men, like Jacques René Tenon (1724–1816), undertook to reorganize the hospital system after its chaotic disarrangement by the Legislative Assembly. In December, 1793, Antoine François Fourcroy (1755–1809) succeeded in reopening the medical schools of Paris, Montpellier, and Strasbourg. In October, 1795, Guillotin was arrested while attending the poor in the Paris market district, accused of having refused to reveal the whereabouts of *émigrés*. It is not astonishing that he was suspect, because he continued powdering his hair and wearing breeches or *culottes* during the Terror; he was, however, soon released.

Guillotin did not publish any scientific writings, but prepared several reports in which he advocated the adoption of Jennerian vaccination in France. The famous *Inquiry into the Cause and Effects of the variolae vaccinae, etc.*, appeared in June, 1798, and soon after Pinel attempted to vaccinate with lymph brought over by Colladon—these attempts were so clumsily performed that no result was obtained. Then the Duke of La Rochefoucault-Liancourt, with the support of Guillotin, proposed the formation of a society for the study of vaccination, and Dr. Husson offered to perform vaccination gratis. Hallé reported favourably on vaccination on March 14, 1803.

In 1804 Guillotin was one of the founders of the reconstituted Académie de Médecine, becoming its president in 1807. This body was not the direct forerunner of the present-day French Academy of Medicine. It can be mentioned that a prolonged discussion took place whether beheading by a falling knife was painless, in which Thomas Sömmering (1755–1830), Melchior Adam Weicart (1742–1803), and others took part. Jean Baptiste Sue (1760–1830) wrote: *Opinion sur le supplice de la guillotine et sur la douleur qui survit à la décollation* (Paris, 1796), asserting that the method was painful. This was denied by Jean Baptiste Leveillé (1769–1829), Georges Cabanis (1757–1808), and others, who examined severed heads as they fell into the basket.

Guillotin developed an anthrax pustule on his left shoulder of which he died on March 26, 1814. During the troublous times through which he lived it was no mean achievement to preserve an even temper and equable mind, to attempt to promote reform and introduce improvements by peaceful means, and to practise medicine according to sound principles. All this was accomplished by Joseph-Ignace Guillotin, and those who appreciate his merits will recognize in him a worthy son of Hippocrates.

H. P. B.

It is estimated that, as every twenty-fifth Swedish man or woman, or more than 250,000 individuals, suffer from rheumatic diseases, they cost the country annually well over 150 million kronor (£8,800,000) and the loss of 20 million working days. With the aim of intensifying the fight against this group of diseases a National Anti-Rheumatism Union was recently instituted, backed by a large number of big Swedish organizations, such as the Swedish Co-operative Wholesale Society, the Federation of Swedish Trade Unions, the Employers' Association, the Swedish Agricultural Federation, etc. The organization will carry on an "information campaign" for making the people more generally aware of the nature and serious consequences of rheumatism, collect funds for supporting medical research, etc. It is the intention to work largely along the same lines as a similar Danish organization, which at present comprises 125,000 members.

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BERYLLIUM POISONING

Beryllium was discovered in 1797, but in recent years it has become increasingly important because of the properties of its alloys. Beryllium copper resists corrosion, is non-rusting, non-sparking, and non-magnetic, and has good electrical conductivity, high strength, and astonishing fatigue-resisting powers. It is used in precision instruments, altimeters, aeroplane pipe-lines, carburettors, telephone switchboards, and in aircraft production. Beryllium steel also has such remarkably valuable properties that it will doubtless receive much commercial attention. The principal ore of beryllium is beryl, and from this the beryllium oxide is extracted by processing at high temperatures with concentrated acids and fusion methods which result in the production of fume and dust. Weber and Engelhardt[1] first showed that these dusts produced lung damage in guinea-pigs, while Fabrioni[2] coined the term "berylliosis" for this pathological condition. Fairhall and his colleagues[3] in 1943, however, reported a full investigation of the toxicity of beryllium compounds in animals. They succeeded in producing experimentally both pneumonitis and dermatitis with beryllium fluoride and oxyfluoride, and certain hydrolysed beryllium salts such as the chloride and sulphate.

The earliest reports of poisoning in industrial workers come from Russia, Gelman[4] describing a condition in which shivering and fever, similar to metal-fume fever, were followed in two days by extensive bronchio-alveolitis. This lung condition he attributed to the action of fluorine which was separated from beryllium oxyfluoride in the bronchioles and alveoli. In 1940 further observations appeared in a report on 46 cases of poisoning by Berkovits and Israel.[5] Inhalation of beryllium fluoride was followed by fever, which subsided in a few days but was succeeded in a similar period by a second phase characterized by cough, scanty sputum, dyspnoea, temperature of 102–103° F. (38.9–39.4° C.), and cyanosis of the face and extremities. Rales were heard in the lungs, particularly at the bases. The blood showed a fall of haemoglobin and leucocytes, lymphopenia, and a raised sedimentation rate, while *x*-ray examination revealed many small ill-defined discrete opacities, especially in the middle and lower areas. The patient usually recovered completely in 10 days to 2 months. The beryllium fluoride affected mainly the smaller bronchi which have no cartilage in their walls. These showed desquamation; their walls became infiltrated with leucocytes, and later they became blocked with inflammatory exudate, leading to minute atelectases with compensatory emphysema. Berkovits and Israel consider that, though resolution of the acute stage is usually complete, it may be followed by fibrosis.

Full reports of this form of poisoning are now appearing in the United States. Van Ordstrand, Hughes, and Carmody[6] gave an account of three cases of chemical pneumonia among workers extracting beryllium oxide; and Kress and Crispell[7] reported 4 cases of the condition in men working with fluorescent powders containing beryllium. Van Ordstrand, Hughes, DeNardi, and Carmody[8] have now described 170 cases of poisoning which have occurred among workers in three plants during the past four years. The manifestations were dermatitis, chronic skin ulcer, and inflammatory changes in the respiratory tract, producing in extreme cases diffuse pneumonitis. The incidence and severity of the changes were proportional to the degree of exposure and were caused by the chemical irritation of dusts and fume. Acid radical salts were more toxic than other compounds, but severe damage was caused by beryllium compounds other than the acid radical salts. Contact dermatitis and skin ulcer occurred in 42 patients in contact with beryllium sulphate, fluoride, or oxyfluoride. The eruption was oedematous and papulovesicular and appeared on the exposed portions of the body, itching being intense. Inadequate cleanliness, excessive perspiration, and failure to use protective devices were contributing causes, while after exposure was terminated the condition subsided. Calamine lotion and phenol, wet packs of 10% Burrow's solution, and boric acid ointment with phenol were the more effective local treatments. The chronic skin ulcers resulted from a crystal of beryllium deposited within the skin layers. Treatment was by early incision of the papule before necrosis and curettage of the fibrous base, when healing was complete in 8 to 10 days. Conjunctivitis occurred as a "splash burn" or in association with contact dermatitis of the face. Local treatment included the use of boric acid solution with mild zinc and adrenaline.

Ninety patients were seen with infection of the upper or lower respiratory tract. Soreness of nose and throat and epistaxis were the symptoms of upper respiratory infection, and most cases cleared in three to six weeks. Lower respiratory tract infections were characterized by non-productive cough, but with occasional blood-streaked mucoid sputum and dyspnoea. Rales were characteristically present in the early phase of inspiration, fine at first but becoming coarse later. Vital capacity was reduced by as much as 30%; there was low-grade fever. If the patient was removed from contact no case of pneumonitis developed after three weeks from the onset of the bronchitis. The condition can be prevented if the workers use a face mask to stop dust entering the respiratory tract. Chemical pneumonitis developed in 38 workers, five of whom died. Symptoms were cough with occasional blood-streaked sputum, substernal burning pain, shortness of breath, cyanosis, abnormal taste, anorexia with some weight loss, and increasing fatigue. The onset was insidious, and signs were conspicuously absent. The vital capacity was reduced as low as 2,000 c.cm., but the sedimentation rate was normal.

[1] *Zbl. Gewerkehyg. Unfall.*, 1933, **10**, 41.
[2] *Med. del Lavoro*, 1935, **26**, 297.
[3] *National Institute of Health Bull.*, No. 181, Washington, D.C., 1943.
[4] *J. Industr. Hyg.*, 1936, **18**, 371; *Occupation and Health*, Geneva, Suppl., 1938.
[5] *Klin. Med.*, 1940, **18**, 117.
[6] *Cleveland Clin. Quart.*, 1943, **10**, 10.
[7] *Guthrie Clin. Bull.*, 1944, **13**, 91, quoted by van Ordstrand.
[8] *J. Amer. med. Ass.*, 1945, **129**, 1084.

Bronchoscopy showed a hyperaemic mucosa with some oedema. *X*-ray examination showed diffuse haziness of both lungs, followed by development of soft irregular areas of infiltration with prominence of pure bronchial markings, and then by absorption of the soft infiltration and the appearance of discrete large or small conglomerate nodules scattered throughout both lung fields, and finally by the clearing of the lung fields after one to four months. Necropsies showed an atypical pneumonitis; striking features in sections of lung tissue were large numbers of plasma cells, relative absence of polymorphonuclear infiltration, diffuse pulmonary oedema, and haemorrhagic extravasation; fibroblasts with evidence of organization were present. Beryllium present in the lung varied between 6.20 and 1.89 mg. per 10 g. of dry tissue.

MAN'S FRONTAL LOBES

From observations of the effects of operative removal there has been much difference of opinion on the apparent functions of the frontal lobes. Brickner,[1] in his synthesis of findings in a case in which both frontal lobes were excised in a case of tumour, concluded that the removal had caused a single basal intellectual defect, which he considered to be a loss of the power to synthesize minor thought processes into more complex structures. Goldstein and Katz[2] interpreted as a loss of "abstract behaviour" the results they obtained in a group of patients. Freeman and Watts,[3] from observing the effect of bilateral frontal leucotomies, considered that the frontal lobes were concerned with foresight, particularly in respect to personal acts and "the relation of the self to the self." Hebb, in a useful critical review,[4] says that, although these three general conceptions of the function of the frontal lobes differ so much, they have this in common—that they attempt to explain at once too much and too little. He points out that the theories expounded by these authors are broad and somewhat ill-defined, and that because of this it has perhaps been a little too simple to make all the observed phenomena fit into the structure of each. He is opposed to the acceptance of each of these theories, because of evidence which he has produced with Penfield[5] from the detailed and careful observation of one case of bilateral frontal lobe amputation. In that there was little likelihood of any structural abnormality in the brain beyond the limits of the extirpation, he considers that this case differs fundamentally from those studied by other workers. The frontal lobes had been amputated because of gross antisocial behaviour associated with epileptic attacks. The abnormal behaviour had followed severe head injury, with damage to both frontal lobes and subsequent scar formation. According to Hebb there was a return to normal behaviour after complete recovery from the operation. In fact the man was able to enlist, and he was fit enough to be posted over-seas: his service was interrupted by an epileptic attack. In spite of very elaborate psychiatric observation and psychometric testing Hebb and Penfield could find no intellectual defect as a result of the almost total loss of both frontal lobes.

Hebb therefore tried to find out why his observations differed so widely from those of other workers. In analysing the differences between his case and others he considered certain general principles. To assess the effects of cortical extirpation one must be able to say how much has been removed and to be sure that no other than the operative lesion need be taken into account. Hebb points out that the neat diagrams which purport to show the path of surgical excision may be misleading. An operation is one thing: a diagram is another. No animal experiment would be complete without full anatomical data, but these can rarely be obtained in human cases. In the absence of exact knowledge of the amount and state of what is excised and what is left behind most careful alternative observations must be made: the limitations of such study must be kept in mind. Hebb says: "The moral is not to abstain from studying clinical material until the perfect case is found but to regard fallible data as fallible, to make every effort to get as good cases as possible, and to put most weight on the cases in which anatomic data are most complete and trustworthy." He also says that a negative conclusion—that a function is not dependent on a certain area of cortex—can be arrived at more accurately than can a positive conclusion: it is easier to determine that an area has been removed without producing particular symptoms than that those symptoms follow destruction of one area of the cortex only. He takes the view, with which we must agree, that an adequately studied case with absence of sequels may yield more information than another in which sequels of uncertain cause are found. This view is important when we consider the limits of the pathological tissue in relation to the material removed, for, histologically, cerebral lesions are often found to extend much more widely than was expected, and it is also well recognized that the effects of circumscribed lesions on the function of healthy tissue may extend beyond their boundaries. Furthermore a small region of partial damage may produce more severe symptoms than a larger area of complete destruction. The electro-encephalogram shows that abnormal cerebral tissue may interfere with the function of areas of normal cerebral tissue. Hebb therefore considers that the functions of the frontal lobes cannot be satisfactorily investigated in cases of brain injury not operated on or in cases in which cerebral tumours have been excised. And, again, as surgical intervention may cause complications in the neighbourhood of the section, that case in which the fewest symptoms follow operation is likely to be the one which gives the truest picture of the effect of the removal alone. Hebb goes on to discuss the problems raised by taking as control material persons believed to be normal. He points out that not only is it very difficult to obtain an identical group of normal control subjects in age and social and intellectual status, but it is also difficult to devise an adequately comprehensive method of testing the group when it has been selected. In his view all the control material used in the past is open to criticism on these grounds.

From analysis of all the recorded cases of unilateral and bilateral amputation of the frontal lobes, Hebb agrees with

[1] *The Intellectual Function of the Frontal Lobes*, New York, Macmillan, 1936.
[2] *Arch. Neurol. Psychiat.*, Chicago, 1937, **38**, 473.
[3] *Psychosurgery*, Springfield, C. C. Thomas, 1942.
[4] *Arch. Neurol. Psychiat.*, Chicago, 1945, **54**, 10.
[5] Ibid., 1940, **44**, 421.

Jefferson[6] and Lidz[7] that there is no evidence that unilateral lobectomy causes a change in behaviour. He applies this observation to the cases with bilateral amputation, backed up by the evidence provided by his own case, in which no change of abnormal behaviour could be found after bilateral frontal lobe amputation.

Hebb, of course, is not so naïve as to deny function to the frontal lobes, which have their greatest development in man. All he does is to affirm that "no one has proved that any single form of normal behaviour is dependent on this part of the brain, or that a clean surgical removal of both frontal lobes has any effect on behaviour." What he has done by careful analysis of the facts at his disposal is to reach a negative conclusion. He has cleared the air for other workers. But it cannot be assumed that the frontal lobes have no effect on behaviour. Although a man seems to manage quite well in his day-to-day life without his frontal lobes, it may well be that more complex thought and behaviour, such as remote planning and initiative, capacity for adjustment or for creative work, have been seriously impaired.

ANTERIOR POLIOMYELITIS

Few infections cause as much public concern as anterior poliomyelitis. A small number of cases in a district, as, for example, in the Barnet area in the past weeks, soon give rise to parental anxiety. But, difficult as may be the problem for the general practitioner, an outbreak in a residential school constitutes an epidemiological—and a psychological—problem of the highest importance for the school doctor. A memorandum by the Medical Officers of Schools Association[8] is therefore timely. A number of medical men with special knowledge of the subject were invited to consider the action which should be taken at a residential school on the occurrence of the disease, and their report contains valuable guidance for all who may have to face such a problem.

The memorandum opens with a short note to headmasters. It is emphasized that even in an epidemic the likelihood of a particular child's being attacked is small. One of the still imperfectly explained vagaries of this infection is that overt cases of paralytic disease are the exception. Usually 80% or 90% of those exposed show no apparent upset. Of cases reported by Illingworth,[9] for example, about two-thirds of those attacked by the virus suffered from a mild abortive illness only, with no sequelae. The diagnosis of the single case, therefore, is not necessarily a cause for acute concern, since case-to-case infection will not as a rule be common. The committee has felt disinclined to be dogmatic on the question of school closure when only one case has appeared; at this stage insistence on a rigid code of hygiene, especially in regard to food-handling, together with the imposition of a strict quarantine for three weeks, may be all that is necessary. The parents of contacts must, of course, be informed. No objection should be offered if a parent seeks to remove his child, but steps must be taken to ensure that the child is properly quarantined at home for three weeks, out of contact with young children and adolescents. Further cases alter the picture so far as parental anxiety is concerned, and the committee advise that on this account alone "the wisest course may then be to disperse the school for at least three weeks." The cases will have been notified to the local medical officer of health, who may supply information regarding others in the district. Close liaison with the public health department is always wise in these circumstances, and consultation between the headmaster, the school doctor, and the M.O.H. is advisable. The second part of the report contains a suggested basis for a letter from the headmaster to parents. This puts the position clearly. As has been said, no obstacle should ever be placed in the way of a parent who desires to remove his child. At the same time the parent must be warned of his responsibility to the community. The local health department of the district to which the boy is removed should be notified of the circumstances.

The Medical Officers of Schools Association has also taken this opportunity to revise that part of its "Code of Rules for the Prevention of Communicable Diseases in Schools" which deals with poliomyelitis. The importance of the gastro-intestinal as well as of the respiratory tract, both as a source of infection and in transmission, is properly stressed. It is not much of an exaggeration to say that the modern conception of the disease would place it in the same group as typhoid fever in so far as methods of control are concerned, and would emphasize the importance of food, fingers, flies, and faeces. It is perhaps still too early to assess the importance of vectors in the spread of the disease. The detection of poliomyelitis virus in faeces was reported in 1941 by Paul and his co-workers[10]. More recently, Ward, Melnick, and Horstmann[11] have supplied evidence that flies thus infected may be a link in the chain of infection. Since D.D.T. has apparently proved effective in the control of such conditions as sandfly fever, its intensive use in the face of an outbreak of poliomyelitis might seem worthy of trial.

"BENADRYL"

A substance which has anti-histamine properties is likely to have an extensive use in therapeutics, for the liberation of histamine in the tissues is believed to be an important factor in many allergic and anaphylactic phenomena. Such a substance[12] has recently been synthesized and studied, and under the trade name of "Benadryl" is now available in this country. This organic compound (B-dimethyl-aminoethyl benzhydryl ether hydrochloride) is a stable white powder, soluble in water and alcohol. It is active when taken by mouth, but may also be given intravenously to the human subject.

In experimental work on guinea-pigs it reduced the mortality from histamine shock from 100% to zero. Its clinical applications in allergic disorders have been studied by a number of workers at the Mayo Clinic.[13] Though mild side-effects occur, it was found that there is a good margin of safety between the therapeutic dose and that required to produce toxic symptoms. When histamine is slowly injected intravenously a general cutaneous flush and nasal congestion normally result. Both these could be promptly controlled by the intravenous injection of benadryl. Usually, however, it has been taken by mouth, and in doses of 50 to 100 mg., two to five times a day, it was tried in a series of 15 cases of acute urticaria. It brought prompt relief to 9 and improvement to a further 5, with a decrease in pruritus in half to one hour and, in the successful cases, disappearance of the lesions in two to six hours. In another series of 35 cases of chronic urticaria and angio-

[6] *British Medical Journal*, 1937, **2**, 199.
[7] *J. Neurol. Psychiat.*, 1939, **2**, 211.
[8] Duplicated memorandum recently issued by the Medical Officers of Schools Association.
[9] *J. R.A.M.C.*, 1945, **84**, 210.
[10] *Science*, 1941, **94**, 395.
[11] Ibid., 1945, **101**, 491.
[12] *J. Pharmacol.*, 1945, **83**, 120.
[13] *Proc. Mayo Clin.*, 1945, **20**, 417.

neurotic oedema, of duration varying from four months to thirty years, the lesions disappeared in 25, and there was improvement in a further 7 cases. Good results have also been noted in hay fever. At least 75% improvement was obtained in 19 out of 22 cases, and the relief in cases of vasomotor rhinitis was striking. Less satisfactory results are reported in bronchial asthma, though on theoretical grounds this condition would seem well suited to the use of the drug. Two-thirds of such patients have failed to benefit from adequate dosage of the drug. However, more careful selection of truly allergic cases may lead to a higher proportion of successes in this group. In certain types of headache, particularly those made worse by histamine, good results were obtained, but other types of headache responded less well.

One interesting use of benadryl was in a 3-year-old child with nephrosis who had had an urticarial reaction after every plasma infusion. When benadryl was administered both before and after a transfusion little reaction occurred. Another child developed a severe urticaria after the injection of tetanus and gas-gangrene antitoxin. This was promptly relieved by 30 mg. of benadryl orally. The side-effects which accompany its administration are usually mild, and in a series of 100 cases were never severe enough to call for discontinuance of the drug. Sleepiness was noted in 60% of cases; dizziness, dry mouth, and a feeling of nervousness each affected about 15%.

PROTECTION OF SCIENCE AND LEARNING

Thirteen years ago, at the beginning of the new era of persecution, some British scholars thought of establishing a society to alleviate suffering already foreshadowed. We do not know who was the actual pioneer, but certainly Sir William Beveridge, Prof. Charles Singer, and Prof. Major Greenwood were early in the field. In a very short time, under the title of Academic Assistance Council, a body was formed which included the most illustrious names in British science and learning; it was generously supported not only by a few wealthy men and organizations but by hundreds of teachers who could ill afford a new subscription. Later, the society was renamed Society for the Protection of Science and Learning; at the outbreak of war appeals for funds and the publication of an annual report ceased. Now the society has issued an account of its work during the war.[1] In one sense this is a cheering document, for it not only records the saving of the lives and minds of several hundred gifted human beings, but shows what service they have since done for mankind in general and our cause. As was to be expected, medicine and its ancillary sciences contribute a large proportion of those the society has helped; of the 601 scholars registered with it more than one-sixth have aided this country in the medical services of the fighting Forces, in medical research, medical teaching, and clinical practice. Those who have worked for the S.P.S.L.—some of the busiest men and women in England have worked hard for it, and the devotion of the small permanent staff has been beyond praise—and those who have been generous in supporting it will read this document with comfort. Old-fashioned readers may remember "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me." It is easy to be eloquent on the brotherhood of science and learning, better and much more difficult to help even a few of our brethren. Sorrowful people, strangers in a strange land in time of war, are not always easy to help; that fact, painfully familiar to those who have done the society's work, leads to the less cheerful side of the report.

Every reader of newspapers knows that progress in the reconstruction of Europe is slow; it is vain to expect that the restoration of those scholars and scientists who wish to return to what were their homes can be rapid; it is certain that some may not wish to return at all. It would not be possible to wind up the society quickly without making another small contribution to human suffering. Inevitably the society's present rate of expenditure exceeds its income, and these are not times when a public appeal for funds would be reasonable. Still it has generous helpers, who will continue to help after the propaganda appeal made by any organization which is certainly anti-Nazi has lost its impetus, and after an official need to secure good brains for war work has been sated. Perhaps there may even be recruits to the ranks of subscribers. The society will continue to help the men of science and humanists driven into exile by "ideologists" now dead. If funds permit it may be able to help others whose fate it is, or will be, to bear the wrath of "ideologists" still living, for in Europe at present

> "Chaos umpire sits,
> And by decision more imbroils the fray
> By which he reigns; next him, high arbiter,
> Chance governs all."

[1] Fifth Report (obtainable from Secretary S.P.S.L., c/o Westminster College, Cambridge).

AUTONOMIC RESPONSES AFTER FRONTAL LEUCOTOMY

It is now fairly well established that the effects of section of the white matter in the anterior part of the frontal lobes can be of therapeutic value in some cases. Most of the patients who have benefited have suffered from chronic and severe disorders of the schizophrenic, depressive, and obsessional types. Success, however, can never be predicted with certainty. The prime reason for this is that the operation is a blind one, and the surgeon is never entirely sure which tracts have been destroyed. Our knowledge of the functions of the frontal lobes is too limited for an answer to be obtained subsequently, unless the patient comes to necropsy. Clinically, the beneficial results of the operation are seen in a lesser preoccupation with painful thoughts, delusions, or compulsions, and a placidity which has on occasion been compared to that of a vegetable. It was to be expected that this placidity would have an autonomic aspect, and support for this notion has been provided by some interesting experiments of Reitman.[1]

All Reitman's subjects were schizophrenic females of the excited catatonic type, and consisted of fifteen leucotomized and ten control patients. A further three patients were tested both before and after leucotomy. Doses of prostigmine, eserine, ephedrine, and amphetamine were given of a strength to produce brisk physiological reaction in the control subjects; but their effects were found to be as a rule perceptibly attenuated in the leucotomized patients. In the patients tested both before and after operation the reduction in autonomic lability was not seen until the fourth week but was fully established by the sixth. The degree of mental improvement was not associated in any absolute manner with the amount of autonomic change. These results provide obvious pointers towards further experiments along biochemical and physiological lines. But our best hopes of advance depend on the development of a satisfactory open operation to replace the present blind surgical procedure.

[1] *J. ment. Sci.*, 1945, **91**, 318.

CHEMOTHERAPY OF TUBERCULOSIS

The Harben Lectures for the year 1946 were delivered in London at the Royal Institute of Public Health and Hygiene by Dr. WILLIAM H. FELDMAN of the Mayo Foundation, University of Minnesota, U.S.A., on July 15, 16, and 17. His subject was the chemotherapy of tuberculosis, including the use of streptomycin.

Basic Considerations

Dr. Feldman began his first lecture by saying that though notable advances had been made during the past two decades in the surgical treatment and sanatorium care of the tuberculous patient, something more was desperately needed. The discovery of the high effectiveness of "sulpha" drugs in certain acute infectious diseases, such as pneumonia, and the amazing therapeutic value of penicillin, made it logical to assume that an agent effective in the treatment of tuberculosis would eventually be found. The problem was to discover a suitable substance which, while effective against the tubercle bacillus, did not have serious or irreversible poisonous effects on the patient. The possible action of a drug against the bacillus might be determined in test tubes, or by experiments on animals whereby its actual effect in an experimental tuberculous infection might be observed. Wherever possible the latter approach to this very complex problem was preferred. As a result of many experiments in recent years fairly satisfactory methods of tackling the problem had been evolved. The great obstacle, however, that still remained in the testing of new drugs was the relatively large amount of a drug necessary for an animal test, and in comparison with other and more acute diseases the long time taken to obtain definite results. After Ehrlich's epochal discovery of the value of salvarsan in the treatment of syphilis chemotherapy was hailed as the great hope in treating all infectious diseases. These hopes failed to be realized in the field of tuberculosis and in other infectious diseases. It was only after the discovery of the first "sulpha" drug in 1935, and the extremely significant observations of Fleming, Chain, and Florey concerning penicillin, that hope was revived that a specific drug against the tubercle bacillus might be found.

The problem of chemotherapy in tuberculosis was best approached by group research. The talents of many specialists should be integrated so as to obtain the maximum co-operative results of the biochemist, the pharmacologist, the bacteriologist, the bio-physicist, the experimental pathologist, and the clinician. The efforts of all those were needed for the development of a successful form of drug treatment in tuberculosis. This exceedingly important field of investigation should have adequate support from public funds.

Evaluation of the Efficacy of Chemicals

Dr. Feldman's second lecture was concerned with an evaluation of the efficacy of sulphonamides, sulphones, and certain other chemicals in tuberculosis. The development of the modern experimental approach to this question originated from the observation that the sulpha drugs were highly potent in certain acute infectious diseases. Sulphanilamide was shown to have a limited but definitely deterrent effect on tuberculosis in guinea-pigs; but, unfortunately, none of the compounds of this character proved of any value in human tuberculosis. Another closely related group of compounds—the sulphones—proved highly potent in treating experimental tuberculosis in animals. This was of much significance because it demonstrated for the first time that the disease caused by the tubercle bacillus would respond favourably to drug treatment. Unfortunately, when the sulphone drugs were used for human tuberculosis they could not be given with safety in large enough doses to attain a similar dramatic effect. The development of safe compounds of this type, used rather extensively in the experimental form of the disease, had provided much important basic information which justified the belief that eventually a highly efficacious and non-poisonous drug of definite value in treating human tuberculosis would be found. The number of compounds yet untried or possible to be made was limitless.

The difficulties of the problem confronting the chemist or the experimentalist entering this field of research were many and formidable, but not necessarily insurmountable. If the skill, the experience, and the information acquired by chemists during the exigencies of war were directed with like intensity to the discovery of chemical weapons against tuberculosis, it seemed highly probable that several safe and efficacious drugs would eventually be found.

Streptomycin for Tuberculosis

In his third lecture Dr. Feldman discussed the effect upon tuberculosis of antagonistic substances of microbial origin, with particular reference to streptomycin. An example of an antibiotic substance was penicillin, which had revolutionized the treatment of many infectious diseases; but penicillin was ineffective against the tubercle bacillus. The search for an agent derived from other microbes began nearly half a century ago and many agents of this kind had been investigated. While most of the studies had been conducted in test tubes, a few of the substances extracted were tried on human beings afflicted with tuberculosis. Until recently, however, when Dr. Waksman of New Brunswick discovered streptomycin, no substance had been discovered which was highly potent against the experimental form of tuberculosis and could also be used safely in man.

In the experimental animal streptomycin had so far proved to be the most efficacious drug for suppressing the infection caused by the tubercle bacillus. Tuberculosis in man and tuberculosis in animals had distinctly different characteristics. The disease in animals was relatively simple in character and fairly predictable in its course; in the human being the disease was far more complex, and one must therefore be very cautious in assuming that a drug effective in the experimental animal would act to a similar degree in man. A limited number of human cases of tuberculosis had been treated with streptomycin, and while in no instance had the results been spectacular they were for the most part highly encouraging. It was of great importance, however, to emphasize that the tuberculous patient must not refuse or delay conventional forms of treatment in favour of some inadequately tried drug that had shown promise in preliminary trials. While the experimental results with streptomycin up to now were suggestive of the future possibilities of this new drug the facts available did not warrant the conclusion that an ideal drug for treating clinical tuberculosis had been found.

Streptomycin was difficult to prepare and the available supply exceedingly small. It would probably be many months before there were amounts sufficient for extensive clinical investigation. This drug, however, had many virtues over previously tried substances in the treatment of tuberculosis, and it was a reasonable expectation that it would eventually find a useful place in medicine. Of much importance was the fact that the tubercle bacillus, like the germs of pneumonia, was definitely vulnerable to the suppressive action of specific drugs. This observation gave considerable impetus for investigators all over the world to search for other and more effective substances, either derived synthetically from chemicals or obtained from microbes in a manner similar to that which produced penicillin and streptomycin.

BEIT MEMORIAL FELLOWSHIPS

The following elections have been made:

Fourth-year Fellowships.—G. J. Popjak, M.D.: to study the behaviour of plasma lipids under different experimental conditions and the problem of foetal fat metabolism; at the Department of Pathology, St. Thomas's Hospital, London. Ethel G. Teece, Ph.D.: to study the chemistry of bacterial polysaccharides and nucleoproteins, with special reference to the Gram complex and to the factors responsible for cell division; at the Department of Chemistry, University of Birmingham.

Junior Fellowships.—S. E. Dicker, M.D., Ph.D.: to study the extrarenal water metabolism and renal function in rats; at the Department of Pharmacology, University of Bristol. P. M. Tow, M.B., B.S.: to study prefrontal leucotomy and the function of the frontal area; at Research Department, Runwell Hospital for Nervous and Mental Diseases.

Major-Gen. Walker, Deputy Director, Medical Services, Scottish Command, recently unveiled in Newbattle Parish Church a stained glass window in honour of the Royal Army Medical Corps, who regularly worshipped there when Newbattle Abbey was their headquarters. The window was designed by Mr. William Wilson, A.R.S.A.

Reports of Societies

POST-WAR CONFERENCE ON NUTRITION

A conference arranged by the Nutrition Society, under the auspices of the British Council, was held at the London School of Hygiene and Tropical Medicine on July 5, 6, and 8. The object was to enable research workers in ex-occupied territories to re-establish contact with their colleagues in this country. British nutritionists were thus given the opportunity to learn about dietary conditions and investigations carried out during the war period on the Continent, while the Continental workers were told about the progress of research in Britain and America.

Sir JOSEPH BARCROFT took the chair at the introductory session, when Prof. J. R. MARRACK gave a comprehensive account of wartime research on human nutrition in this country, while Dr. D. P. CUTHBERTSON dealt similarly with animal nutrition. Sir EDWARD MELLANBY spoke on the activities of the Medical Research Council; Prof. R. A. PETERS described the activities of the Accessory Food Factors Committee, Sir JACK DRUMMOND those of the Ministry of Food, and Dr. H. E. MAGEE those of the Ministry of Health.

The Scandinavian Zone

Dr. HAMMOND presided at the first open session, and Prof. FRIDERICIA, of Denmark, was the first speaker. He explained that his country normally imported calories in the form of cereals, and exported animal protein and fats in the form of bacon and dairy products. During the war less butter and sugar had been consumed, but there had been no serious privation. The usual form of bread had always been 100% rye, so that arguments about increasing the extraction rate had not arisen. The daily ration of bread for ordinary persons was 250 g., and about 70 g. of wheat flour of 80% extraction was also consumed. Among other scientific investigations in Denmark Prof. Fridericia mentioned those on the anti-haemorrhagic vitamin K, which gained a Nobel prize for Prof. Henrik Dam. On the whole the Germans did not interfere much with research.

Dr. J. K. TIKKA said that in Finland nutritional conditions remained fairly good until 1941, when scarcity of labour, infertility of the soil, and loss of territory began to take effect. Even under these handicaps country dwellers continued to get what food they wanted from the farmers through the black market. Many industrial workers and intellectuals living in towns with large families, however, had to subsist mainly on bread and potatoes with only minute amounts of milk, meat, and dairy products. In adults losses of 10% body weight were common, while in children the incidence of rickets increased.

Dr. O. GALTUNG HANSEN told how the food situation in Norway deteriorated until in 1940 coffee, tea, eggs, and fruit had practically disappeared. Shortage of meat was met by increasing the daily consumption of fish from 100 g. to 300 g. per person. Adults lost weight, and in some cases developed oedema. Almost everyone felt cold, tired, and weak. Hunger persisted even after meals, and nycturia was often an additional trial. The children suffered little until 1943, but then became paler, thinner, and less muscular. In the general population the incidence of infectious diseases increased six times, and notifications of tuberculosis went up by 34%.

Prof. E. L. ABRAMSON reported the results of a dietary survey of 500 Swedish families. Although during the war the consumption of meat fell to 75% of the previous level, there was little evidence of malnutrition and the death rate in 1942 was at its lowest level. To avoid the risk of vitamin A deficiency carotene was extracted from carrots and incorporated in the margarine supply.

Poland, Batavia, America

Dr. A. SZCZYGIEL, of Poland, started the second open session, at which Dr. D. P. CUTHBERTSON was chairman, with a story of tragic suffering and acute starvation. In 1941 the common diet provided only about 1,200 calories per head, and the black market did valiant service in distributing food which would otherwise have been requisitioned by the Germans. The available foodstuffs were not only inadequate in amount but were usually of most inferior quality, and were often infected with *Salmonella* or *Trichomonas*. Diarrhoea was common. The rye bread, with 25% added bran, contained a high proportion of fibre and was often sour. Nervous lesions were frequent, whilst scurvy was sometimes so severe as to cause loss of teeth. Over a million people suffered from tuberculosis, and resistance to typhus was reduced. In concentration camps 75% of the Jewish prisoners had oedema, and in the ghettos infants died of hunger. Even now the food shortage in Poland was severe, and the infantile mortality rate remained at about twice the pre-war figure.

Dr. S. K. KON, of Reading, mentioned that he had seen a report describing the shocking effects of starvation in the Warsaw ghetto which had been drawn up by twenty-three doctors, of whom only one now survived. Prof. VAN VEEN related his experiences in Java. Confiscation of food by the Japanese was probably responsible for the death of three to four million Indonesians.

Dr. C. G. KING, scientific director of Nutrition Foundation Inc., the large research fund financed by American food firms, welcomed the presence in Washington of Sir J. BOYD ORR, Director-General of the F.A.O. He said that there had been practically no nutritional diseases in the U.S.A., although intakes of some nutrients might occasionally have been below the optimal level. Research had covered a wide range, including diets for hot and cold climates, food preservation by dehydration, human requirements for amino acids, and the rehabilitation of subjects who had suffered severe loss of weight from prolonged partial starvation. He had great hopes that the work of Spies and others would lead to the successful treatment of many forms of anaemia with folic acid, which had recently been synthesized. His account of the feeding of troops in the Pacific war area by means of mobile farms, which were landed complete and started ploughing a few hours after the islands had been cleared of Japanese by the assault parties, was an excellent illustration of the American gift for organization.

Belgium, France, Holland, Switzerland

Prof. E. BIGWOOD, of Belgium, spoke first in the third open session, at which Dr. L. J. HARRIS presided. He said that the lowest intake had been in 1943, when urban inhabitants had received about 1,800 calories, excluding those derived from milk and green vegetables. Home-produced protein fell during the war to about half the pre-war level, and in 1941 there were many cases of oedema. The increased consumption of herrings from the North Sea caused a steady decline in this condition, and by 1944 cases had become very rare.

Dr. TRÉMOLIÈRES, of France, said that the nutritional conditions in the agricultural districts were good, but in industrial towns the diet was often very poor. The infant mortality rate and the incidence of tuberculosis were greatly increased. Deficiency of vitamin A was suspected in groups of the population who were too poor to resort to the black market; and in some instances there appeared to be reduced efficiency in the conversion of carotene to vitamin A.

Prof. B. C. P. JANSEN told how in Holland 66% of the pasture land had been used for growing potatoes. In view of the great importance of this foodstuff experiments were carried out on the effects of variety and season on the concentrations of vitamins C and B_1. While 30–40 mg. of ascorbic acid were found just after harvesting, only 5–10 mg. remained after storage until the following spring. One third of the daily requirement of vitamin B_1 was derived from potatoes. Holland did not suffer from severe malnutrition until 1944, when the great railway strike caused a reduction in the food intake to 500 calories daily, resulting in 20,000 deaths from starvation. Speaking of fundamental research, Prof. Jansen stated that vaccinic acid, which is present in butter fat, had been found to act as a growth factor in rats.

Prof. D. F. VERZAR described dietary conditions in Switzerland. His country was surrounded by warring powers, and bread rationing had been necessary. Dr. DEMOLE dealt with

research activities, and mentioned that a diet rich in vegetables containing vitamin C afforded some protection against whooping-cough.

International Problems

Dr. W. AYKROYD, of the United Nations Food and Agricultural Organization, explained that the nations exporting wheat had twenty million tons available, whereas the importing nations required thirty million tons. The present food crisis arose suddenly and demonstrated the need for a world food-intelligence service. Steps had now been taken to persuade nations to save wheat by increasing the extraction rate of flour, and by discouraging the feeding of wheat to animals. The International Emergency Food Council would act on the assumption that the basic daily requirement for western nations was 1,900 calories, and for eastern nations 20% less.

The two final sessions, at which Mr. A. L. BACHARACH and Dr. S. K. KON presided, dealt with animal nutrition. In achieving its expressed aim of establishing contacts between British and European nutritionists the conference was completely successful. Few can have left without a broader outlook on the international aspects of nutrition, and a keener appreciation of the problems to be faced.

Correspondence

Work for the Disabled

SIR,—The language in which official pronouncements are couched has a peculiarly numbing effect on the average mind, and when it was noted in the House of Commons on July 30 that the Minister of Labour had made an Order under the Disabled Persons (Employment) Act, 1944, that the standard quota will hereafter be raised from 2% to 3%, few medical men realized that they were witnessing an important stage in the evolution of one of the great social reforms in the history of this country.

Expressed in simple terms the Order means that employers must now include three disabled persons in every hundred of their employees: their former obligation to the disabled was the employment of 2%; they must now employ not less than 3%. Has this any particular significance? Does it mean anything to the average practitioner of medicine? It does indeed. It is the complete answer to correspondents who in recent months have criticized the action of employers in persuading disabled employees to register under the Act even although they were already engaged in work. It is also the answer to the criticism of your leader (June 29, p. 990) that the "typical Civil Service approach to the problem . . . does not even achieve its object, since it merely means that the 2% will be made up of those with flat feet and subject to bronchitis." The purpose of the Act is to ensure employment for every disabled person—that is to say, for every person who has a handicap in seeking or keeping employment, no matter whether his handicap is simple flat foot or bronchitis, or grave deformity or disease. Every such person should register no matter whether he is already employed or not and no matter whether his handicap is serious or not. As the number on the register increases, so will the percentage obligation on the employer increase. Six months ago, when the Act was first introduced, the proportion was fixed at 2%. Since then 600,000 disabled persons have registered, including 50% surgical cases, 30% medical cases, and 5% psychiatric cases, many of them very seriously disabled. Of this number 50,000 are still unemployed. The increase in the quota from 2% to 3% offers employment for another 150,000 disabled persons, which should cover the immediate problem. But this increase is not only an assurance to those already registered who are unemployed; it is also an assurance to those who will register in the future. The quota will be increased still further as soon as increase is justified by numbers. The scheme may perhaps bear the stamp of the Civil Service mind, but, whether that is a good thing or a bad thing, it bears the stamp of an organized plan by which to guarantee employment for every disabled person.

In the leading article to which reference is made emphasis was also placed on the importance of securing employment "for those grossly incapacitated." This presumably refers to patients whose incapacity is so serious that they cannot in any circumstances compete with the able-bodied on an economic basis. It must first be emphasized that few fall into this category. In the case of the vast majority of disabled patients the problem is only to secure the right type of employment; if this is secured the possibility of successful competition with the able-bodied has been proved time and again. Placement is, of course, difficult. It calls for co-operation between medicine and industry; it demands the skilled service of well-trained Disablement Rehabilitation Officers, suitably aided by medical boards in hospitals and directed by regional medical consultants, working in harmony with industrial medical officers; it demands all the research into industrial health which can be achieved; it requires the co-operation of every medical man. All this is recognized by the Ministry of Labour and the medical committee of its National Advisory Council, and active steps have already been taken to ensure suitable training and medical direction of Disablement Rehabilitation Officers. But it must be acknowledged that some patients remain for whom sheltered employment is the only possible answer. This is the task of the Disabled Persons Employment Corporation. Three factories have already been established by this Corporation; they are in active production and others will be established in the near future. Almost insurmountable difficulties have arisen, but nevertheless energetic steps are being taken to secure employment, not only for those who are incapable of competing with the normal output of able-bodied men, but also for those who are incapable of engaging in normal hours of labour.

No one who applies his mind to these tasks believes that they are easy of solution, and no one imagines that the solution is to be found without the commission of error; but recent experience in the course of a series of lectures in Canada and the United States reaffirms my belief that simple recognition of the problem, and the resolute attempt to solve it, has in itself brought credit to this country.—I am, etc.,

REGINALD WATSON-JONES,
Chairman Medical Committee, National Advisory Council on the Employment of the Disabled.

London.

Demobilized Specialists

SIR,—I have read with interest the letter from the Presidents of the Royal Colleges (July 27, p. 134). There is no doubt that the situation to which they draw attention really does exist and is causing very great anxiety to the demobilized specialists concerned. The suggestions they put forward are constructive and if accepted would prove a great boon to many. Unfortunately, they are already too late.

A large number of men who qualified in the months and years immediately before the war joined up in late 1939 and early 1940, and after varying periods of service and experience were accepted as trainees and eventually passed on to specialist work. These men usually had not had the opportunity of taking higher qualifications, but, after instruction and observation by senior consultants, were considered to have the professional and other qualities necessary to the Service specialist. A large proportion of these men were demobilized at the end of 1945 and beginning of 1946, and have now completed, or are about to complete, the six months' hospital appointments offered to them.

What of their future? Some have obtained the higher diplomas they lacked; some have not; but in either case they are faced with the problem of supporting themselves (and many of them have families) in the almost complete absence of any prospect of employment.

The Presidents of the Colleges have said: " . . . a reservoir of most useful recruits for the consultant service of the future will be lost." That is true, but I fear the final phrase should read: " . . . has been lost," for many of these men have had to give up their ambitions of a consultant career and have turned to general practice. This, when the bitterness has passed, will be greatly to the advantage of general practice, but with the introduction of any National Health Service the greater shortage will be of specialists and these men will no longer be available.

Here I think I may be permitted a personal note as illustration. I joined the R.A.M.C. in 1939 and, apart from the first six months, spent the whole of six years' service in military

hospitals (through no special manœuvring of my own!). After some four years I was classified as a graded physician, and eighteen months later was advanced to specialist physician with the rank of major. During the last two years of my service I was accustomed to considerable responsibility and to directing the work of junior medical officers. After demobilization I, in common with many similarly placed colleagues, applied for and obtained an appointment at my own London teaching hospital, with the object of consolidating my experience and of working for the M.R.C.P. Unfortunately, under the system in operation at this hospital, demobilized doctors are divided into two groups—those with, and those without, higher qualifications, and are paid salaries, respectively, of £550 plus £100 and £350 plus £100 regardless of their Service experience.

The example of one colleague who served in the same overseas command as myself serves to illustrate the inequity of this arrangement. He had been classified as a specialist physician for several years and after a very varied experience was, during his last six months in the Army, appointed officer i/c division. Since returning to his hospital to work for his diploma he has been employed as a junior house-officer with an income of £350 plus £100!

My appointment is now about to end, and as I found that I could not support my family on this income, and there was no prospect of any further employment at the end of six months, instead of devoting my time to preparing for an examination I have been travelling about the country interviewing agencies and doctors in an effort to find a suitable practice in congenial surroundings. I have been fortunate, and have at last succeeded in my quest, but many of my contemporaries are still searching.

If my case were an isolated one it would be of no interest, but I wish to stress the fact that there are many men similarly placed who are anxious, and well equipped, to continue in consultant work but who cannot hold on much longer without the prospect of reasonable employment at a sufficient income. Many, perforce, have made their choice, but others are still struggling along, and if some such scheme as the Presidents of the Royal Colleges suggest could be put into practice it would help to stop this wastage of potential consultants, but it must be done quickly. The matter is urgent.

In order not to cause embarrassment to my future partners in practice I shall use a pseudonym, but if any of your readers really wish to know my identity I trust, Sir, that you will not withhold it.—I am, etc.,

London, N.W SPECIALIST (lately).

SIR,—As one of "the 800," I should like to express satisfaction and thanks for the letter from the Presidents of the three Royal Colleges (July 27, p. 134). Should their suggestion be adopted, however, I feel that the present scale of remuneration is inadequate for so long a period, and would suggest that, subject to satisfactory service, an increase in pay of £200 per annum after the first twelve months is an absolute necessity.

Many of us are over 35 years of age, with families to bring up and educate in the meantime, and with the present rising cost of living more and more dips into capital are having to be made. Unless some such provision is made, many good men of "the 800" will have to go into general practice long before April, 1948.—I am, etc.,

Epping. GORDON S. A. KNOWLES.

SIR,—I feel sure that the Presidents of the three Royal Colleges will receive the whole-hearted support of the profession in their endeavour (July 27, p. 134) to obtain assistance from the Government for the demobilized specialist who has either finished his educational rehabilitation or, as a recognized specialist, has returned to practice. Those who were well established before the war may have been able to re-establish themselves; but the young man who was called up just as he was about to acquire a suitable hospital appointment, or was in the early days of such an appointment, is having an extremely hard time.

If it were possible for the Local Medical War Committee or a similar organization to invite him to replace a specialist whose call-up is now due, or to fill hospital vacancies, prior to election of a permanent member to their staff, on a sessional basis similar to that prevailing in the Emergency Medical Service, it would be helpful to all concerned.—I am, etc.,

Liverpool, 1. R. KENNON.

Health Service Bill

SIR,—Surely every doctor has by now read the momentous information in the *Journal*, Aug. 3, and surely every doctor will join with myself in offering our most sincere congratulations and thanks to Dr. H. Guy Dain for his address as Chairman of Council at the Annual Representative Meeting. Several correspondents have written from time to time asking that the B.M.A. should give the profession a lead in its attitude to the National Health Service Bill, and I would submit that Dr. Guy Dain has now given all of us the lead for which we have been waiting. It is difficult for any single doctor to make up his mind definitely, by himself, as to the course he will pursue should the present Bill become law (as it probably will), but our course has now been set for us, and if the profession will now cast aside all doubts, all hesitation, all "sitting on the fence," and rally solidly behind the Chairman of Council we shall manage to save ourselves from bureaucracy and a medical dictatorship. I would go further and say that any medical man who still hesitates will deserve all that the State medical service will inflict upon him and more, for he will be betraying his colleagues.

The question of flouting a law does not arise, as even the Minister of Health has said a doctor does not need to join the Service unless he likes; consequently 50,000 doctors do not need to join the Service either. Let every doctor then stand firm for freedom, and support Dr. Dain and the B.M.A. to the limit before the medical profession becomes extinct. Let us remember that this matter does not concern England and Wales only, but all doctors in the British Isles must rally to support one another. We must all realize, as Dr. E. A. Gregg pointed out, that it will mean "blood and tears and toil and sweat," but surely even this will be better than selling ourselves and our profession for ever. Some doctors are at present going abroad, others are trying to decide between going abroad or giving up their profession rather than become political pawns, and these are grave decisions to make—even blood and tears and toil and sweat are preferable to preserve our ideals. Arising from this, would it be possible in some way to pool the profits of practices so that those who are badly hit in their adherence to the cause may be compensated by sharing in the profits of others who are better off? Personally I have signed to contribute to the Fighting Fund (and, only to show my sincerity, for more than the £25 suggested), and I for one will be very pleased to contribute, along with others, a proportion to a fund to reimburse those who have less remunerative practices or who are likely to be in straitened circumstances. This would be an annual payment out of profits, and would last until the present crisis is past.

One thing is certain: the even tenor of our professional lives will be inevitably disturbed, and we must choose between a dishonourable capitulation to the State or to make sacrifices ourselves, even to the extent of pooling our incomes so that we may remain free and keep others free. Let every doctor rally behind Dr. Guy Dain, supposing we have to scrub our own surgeries.—I am, etc.,

Kirriemuir. J. MCINTOSH RATTRAY.

SIR,—Many of us will have read with a sense of bitter disappointment the account of the discussion of the National Health Service Bill at the Annual Representative Meeting last week, and the decision to submit to a referendum of the whole profession the question as to whether negotiations on Regulations should take place. We are faced by constructive proposals by the Minister for the new service and apparently nothing but destructive criticism by our own leaders. The result of a referendum on such terms must be a foregone conclusion, and it can do nothing but weaken our position. It is obvious that a Bill of this nature is bound to come into operation. It should also be obvious that however much we may wish to retain the right to buy and sell our practices, it is

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Private Practice—A Principal Issue

SIR,—That private practice should continue in the presence of a National Health Service has been recognized repeatedly at meetings of the Representative Body and by the profession in general as being the only certain safeguard for the freedom of patients and doctors against a monopoly. It has been recognized also that it is not enough to maintain the right of private consultation but that all the facilities essential for modern methods of diagnosis and treatment, especially including independent nursing institutions, must be available for private patients. Yet the provisions of the Bill which has now passed through the Commons give the Minister power to acquire compulsorily private institutions, and in this and other ways to destroy private practice whenever he may see fit. From several statements it is clearly the intention of the Minister and of his political party to abolish or to squeeze out private practice as soon as convenient, and in truth the provisions of the Bill giving this power met with no determined opposition from the other parties. The threat to continuance of private practice has thus become a principal, if not indeed the principal, point which the profession must take into account in deciding whether or not to take part in the Service, and before that in the making of the Regulations under the Act.

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Negotiators and Legal Advice

SIR,—I think that most doctors will agree that the members of the Negotiating Committee of the Insurance Acts Committee have been singularly unfortunate in their deliberations with the Ministry of Health. I appreciate and gratefully acknowledge the great amount of work and time that all the members of these committees have expended for the general good of the doctors, but after all they are doctors themselves and not professional negotiators. I know that the B.M.A. does obtain legal advice, but this is not enough. In my opinion, the B.M.A. should procure the best possible barrister obtainable to undertake all necessary future negotiations with the Ministry, because it will be necessary for deliberations to take place whatever the result of the proposed plebiscite—otherwise the doctors will become entirely subservient.

In an interview I had recently with a Labour M.P.—a man who has been a negotiator on behalf of his union for many years—this sentiment was endorsed.

It would be interesting if other doctors would express their views on this important matter.—I am, etc.,

GEOFFREY DUDLEY.

The Doctor's Dilemma

SIR,—Under the heading "Demobilized Specialists" (July 27, p. 134) the Presidents of the Royal Colleges of Surgeons, Physicians, and Obstetricians and Gynaecologists respectively have painted a gloomy picture showing that the spectre of unemployment is stalking among the ranks of demobilized specialists.

What is the position among G.P.s? I quote a statement from the current bulletin of the Socialist Medical Association: "Applicants for assistantships were out of proportion to the number of vacancies available." What can this mean but unemployment?

I am quite aware that in 1948, when the Health Bill starts to operate, we shall be short of doctors, dentists, and most probably many other things as well. What interests the demobilized doctor is not so much what may happen in 1948, but what is going to happen in the few remaining months of 1946.—I am, etc.,

Southport, Lancs. JOHN H. HANNAN.

The Plebiscite

SIR,—Before the plebiscite goes out to us all it behoves us very seriously to consider, and very clearly to see, what the issue really is. Quite obviously it is *not* a matter of finance: to many a salary is more comfortable than a winter rush and a summer stagnation. Nor is it an issue where selfishness enters. It is an altruistic choice we must make on the sole grounds of honour and humanity.

For nearly four thousand years the Christ-like spirit of our Hippocratic Magna Carta has stood for all that is decent and honourable in our profession. The spirit of that oath has produced a profession which daily performs more for humanity—without thought of personal gain—than all others put together. In the ultimate analysis that is the birthright we are asked by a would-be dictator to sell for a mess of Marxian pottage.

We are to desecrate the wishes of the dead upheld by British justice through the centuries. We are to prostitute uncoerced charity and voluntary free will to a bureaucratic autarchy. How dangerous this is! The annals of medicine clearly show that *every* advance in the healing art and appurtenances thereof came through voluntary and sacrificial effort.

Think of the great ones of our profession who cheerfully laid down their lives to alleviate this or that scourge of humanity. Remember the yellow fever investigators and all those other heroes. Can you see the Bevan Boys rising to any comparable altruistic heights under the scourge of Whitehall with its avalanche of forms and impersonal directorates? I trow not.

If enough of us are conscious of the priceless value of our honour this disgrace will not fall upon us, nor can we ultimately lose our free heritage. I am certain that we will have the vision to see, the heart to understand, and the power to prevail.—I am, etc.,

Loughton. G. B. KIRKLAND.

SIR,—I am sure every doctor who has read the full statement made by Dr. Guy Dain (Aug. 3, p. 168), will have a thrill of pride at the first clear-cut, emphatic, and straightforward lead we have received from the B.M.A. as to our position in the impending National Health Service Bill. Either we want this or we don't; and let us have an immediate "Yes" or "No" from the profession by sending out a questionary something on the following lines:

Are you in favour of negotiations taking place on the matter of Regulations and the drawing up of the scheme? Yes or No. If "No," it will be assumed that you reject the scheme absolutely, whatever form it may take.

Dr. Dain says truly that "there are no other doctors but the doctors who are qualified. We are in the strongest possible position for ensuring that what we think is best for the public will be carried out."

Finally, a word to the returned Service doctors who like myself have found the change-over none too easy. No one will object to my mixing medicine with religion and literature, as the latter two contain much good advice applicable to the present day. We require faith, which is excellently defined in Hebrews xi, 1: "Faith is the substance of things hoped for: the evidence of things not seen." While Shakespeare says:

> "Our doubts are traitors,
> And make us lose the good we oft might win
> By failing to attempt."

Let us remember the motto which carried the Imperial Province safely through its hour of trial some thirty years ago, and, substituting the first and fifth words, take as our watchword, "Doctors will fight, and Doctors will be right."—I am, etc.,

Appleby Magna. J. R. SALMOND.

Tuberculosis under the Bill

SIR,—I think that the majority of experienced tuberculosis physicians will agree with the general remarks expressed in your annotation (July 6, p. 20), and Dr. Hugh Ramsay's letter (July 27, p. 135). The importance of co-ordination of all measures affecting the tuberculosis patient cannot be over-estimated. It was one of the basic principles formulated by Sir Robert Philip well over fifty years ago on founding the first tuberculosis dispensary. It was endorsed by the Astor Committee in 1912, and since then up to the present day has stood the test of time. To quote Philip (*Journal*, 1906, **2**, 1529):

> "The tuberculosis dispensary should be, for every city or district, the uniting point of all other agencies. It should not be an isolated institution, but form an integral part, indeed *the centre, of a great network of operations*. . . . It cannot be too strongly emphasized that the strength of such a scheme lies especially in its organization and co-ordination. Each factor is doubtless of value. Each department has its own sphere of operations. As isolated elements their possibilities are relatively limited. In proportion as the various departments are intimately connected and co-ordinated, they each become more serviceable. The key to complete success in the campaign against consumption lies in the *harmonious co-ordination of well-directed measures*." (My italics.)

These remarks apply with even greater force to-day in view of the ever-widening sphere of anti-tuberculosis activities, especially in relation to mass fluorography and rehabilitation.

If a tuberculosis scheme, therefore, is to function at the highest level of efficiency there must be unity of control, and it seems rational that this should be vested in the tuberculosis physician, who has a sound knowledge of the patients' requirements. In addition to the tuberculosis physician's examination and assessment it is desirable that the patient should undergo a psychological examination, chiefly for rehabilitation purposes, so that his mental aptitude or otherwise for certain well-defined types of work may be made manifest. For this reason a specialist psychologist should be attached to the consulting staff of the tuberculosis scheme. In this connexion preliminary observations of the 1944 Disablement Act suggest that more detailed attention to the patient's mental make-up is necessary if the placing of "square pegs in round holes" is to be avoided.

The proposal to link the tuberculosis dispensary to the general hospital should meet with wide approval, but it is essential that the individuality of the dispensary be maintained. As one who has been for many years on the visiting staff of a county general hospital, which for a period housed a chest

surgical unit, the writer can speak from experience of the advantages gained from such close association. Apart from the activities of the out-patient department of a general hospital the in-patient department should have two main functions in respect of tuberculosis. First, in-patient investigation of chest cases seen at dispensaries or elsewhere which require further investigation to establish the differential diagnosis. Secondly, cases of definite tuberculosis, mainly minimal lesions, whose condition is doubtfully active and requires accurate assessment. Cases in either of these categories found to require treatment should be transferrred to the appropriate institution for pulmonary tuberculosis, but non-tuberculous cases would be retained in the hospital. Valuable beds in sanatoria required for the urgent treatment of active progressive lesions are thus unblocked and the long waiting-list materially reduced. The tuberculosis physician's main duties at the general hospital therefore should be to "pin-point" the diagnosis, and where the patient is found to be tuberculous to assess the state of activity and determine manner of disposal. It is obvious that with the development of mass fluorography, as yet in its extreme infancy, many more beds will be required for these investigations.

At the present time there are over one hundred and eighty committees throughout the country concerned with the administration of tuberculosis schemes. *Quot homines, tot sententiae!* Can it be wondered, then, that there is such a divergence in the standard of efficiency attained in the operation of these schemes? The following story may not be irrelevant. An Englishman touring the Scottish Highlands called at a wayside inn, and was surprised at being able to obtain alcoholic refreshment outside the usual licensing hours. "Is there any difference in the law here?" he inquired. "Nae deeference in the law, but a great deeference in the interpretation thereof!" was the reply.

The new Bill offers an excellent opportunity for reviewing the present scheme throughout the country and eradicating existing defects. Let us then build up a first-class, integrated, national scheme which will keep Britain in the forefront of the campaign against tuberculosis, and so fulfil even the most sanguine hopes of the early pioneers, both those whose names are recorded, and also those who have gone "unhonoured and unsung."—I am, etc.,

Chester. D. W. TOUGH.

Congenital Malaria

SIR,—During part of June and July this year I had blood-films from 31 mothers and their newly born babies examined (June 22, p. 966). In every case the mother's blood was taken from the finger, and the baby's from the umbilical cord at birth. Out of the 31 cases 14 mothers and 5 of their babies had malarial parasites, malignant tertian; and 6 mothers and 3 of their babies had benign tertian parasites.—I am, etc.,

Cawnpore. C. B. ADDERLEY.

Transurethral Prostatectomy

SIR,—After the numerous papers and letters recently contributed to various journals by the advocates of abdominal prostatectomy and the originators of new technical methods, I much appreciated the refreshing note of stability struck by Mr. W. E. M. Wardill's letter (July 20, p. 100), and I entirely agree with his observations on transurethral prostatectomy.

Hey and Millin have not only written about their respective techniques of abdominal prostatectomy, but have criticized the transurethral route. Most criticisms of transurethral prostatectomy—to which the above are no exceptions—are, I believe, misleading or inaccurate. Hey's observations bear no relation whatever to transurethral prostatectomy except that of simple inaccuracy. Transurethral prostatectomy, especially in comparison with abdominal prostatectomy, must be judged according to its mortality rate, morbidity rate, and operability rate for comparable cases. It is according to these standards that the operation will stand or fall. The advantage in operability and mortality rates for comparable cases lies overwhelmingly with the transurethral route. Since the adoption of this route the whole scope of prostatic surgery has been vastly increased to include the large group of very aged prostates quite unfit for abdominal prostatectomy, and to render safe for surgery the much larger border-line group of bad risks. The whole group of permanent ambulatory suprapubic cystostomies—a large one in municipal hospitals—has, in my personal experience, now disappeared. The results of transurethral prostatectomy using the Thompson cold punch after adequate experience (over one hundred cases) have on the whole been much better than the results following suprapubic prostatectomy.

In January of this year Millin gave his total for transurethral resection as 219 and (*Proc. roy. Soc. Med.*, 1946, **39**, 328) went on to say, "I can claim, I think, a wider experience of these operations (loop and punch transurethral resections) than anyone in this country." One does recall, however, that Wardill's published total was 230 cases five years ago. My own total is 369 cases—97 treated by the diathermy loop and 272 by the Thompson cold punch.—I am, etc.,

Manchester. H. T. COX.

The Catheter and the Prostate

SIR,—Mr. W. E. M. Wardill (July 20, p. 100) presents a strong case for prostatectomy with the cold punch; but in his letter he fails to make clear the great difficulties associated with this operation, though admittedly he has done so elsewhere (*Lancet*, 1941, **2**, 127). I agree with him that the operation can be very satisfactory and gives a low mortality when expertly performed; but it requires a very high degree of technical skill to remove an adequate amount of gland; and a large experience, probably some five hundred cases, is necessary before this proficiency can be attained. A further difficulty is the need for intensive after-care, which requires a team of trained assistants and orderlies, preferably housed in a special department, such as the one at Newcastle.

In a small experience of some one hundred consecutive cases operated on with the Thompson punch I was able to raise my operation rate for prostate patients to 90% with a mortality of just over 9%, but the strain on the theatre and ward staffs in a crowded general hospital was very great. Furthermore, a number of these cases had sooner or later to be done again on account of incomplete removal of prostatic tissue. Also, haemorrhage is sometimes very difficult to control; and that urethral complications are not infrequent is shown by the increasing use of a perineal urethrotomy in some American clinics.

I therefore turned to the Hey operation, and up to the end of January this year had operated on 62 cases out of 65 admissions (two admitted moribund, and one refused operation). There were altogether six deaths: uraemia—2 cases, 8th and 9th day, aged 78 and 67; pneumonia—2 cases, 4th and 53rd day, aged 83 and 73; senility and cardiac failure—1 case, 10th day, aged 88; streptococcal septicaemia—1 case, 21st day, aged 61 (cross-infection in ward). Thirty-three cases came in with acute retention, with one fatality in this group. As with Mr. Wardill, no case is refused operation if there is the faintest chance of recovery, the average age of the fatal cases being 75 years.

Nearly all your correspondents have criticized Mr. Wilson Hey's methods adversely, but from reading their letters it would appear that none of them has given "aseptic prostatectomy" a fair trial. The Hey procedure has definite advantages: it ensures complete removal of the gland, requires a minimum of pre- and post-operative treatment, and the cases can therefore be nursed in the surgical wards of a general hospital. Also, the stay in hospital is comparatively brief—an important point with the present shortage of hospital beds. Lastly, a very high proportion of prostate cases can be offered the chance of permanent relief with a reasonable over-all mortality rate. Latterly, I have combined Mr. Wilson Hey's principles with the Millin retro-pubic approach, which presents some attractive features—notably, good haemostasis and absence of a bladder wound; but it is as yet too early to assess the value of this combination.—I am, etc.,

Lincoln. G. A. BAGOT WALTERS.

SIR,—Mr. W. E. M. Wardill, in his forceful letter (July 20, p. 100), writes from want of knowledge of my operation, the type of patient, and the standard of operability. He has yet to see a prostate removed aseptically, and the results. He is quite unaware of the extraordinary care taken in diagnosis both before and during the operation. It is well realized that urinary

retention in the presence of an enlarged prostate may be due to some other cause, perhaps in the abdomen, which can be and often is explored during my operation without shock, and at the slightest provocation. Prostatic obstruction can no longer be considered as an entity in itself as the cause of obstruction. Prostatectomy has entered upon a new era.

Mr. Wardill believes that the septic transurethral route should be the only one. I hold that whilst the transurethral method has a definite place (*Brit. J. Surg.*, July, 1945) the transvesical route, with full investigation of the bladder, and, if necessary, abdomen, is generally the wiser route. There must be at least six ways of dealing with any individual prostatic obstruction. Mr. Aneurin Bevan could create for himself everlasting fame in surgical history if he would appoint investigators with full powers to evaluate the results and tell the world which method is the best. This would apply in cancer of the breast and many other diseases. Each surgeon now ploughs a lonely surgical furrow, believing that his method is the best, in spite of the journals, his clubs, societies, and conferences. Assessment and evaluation of results should be in the hands of experienced judges. Mr. Wardill's chief objections are to my refusal to pass the cystoscope to diagnose the disease, and the catheter to relieve the patient. If the cause of the urinary retention is in any doubt, of course the catheter or cystoscope must be passed; but the infection occasioned thereby must be allowed to recover before an operation is permissible. It is quite true that many a catheter has been passed only once and never required again. But it is chronic, not acute, retention that kills, and the prostate is allowed to grow and ultimately by some complication assist in the patient's death. We are all asking the prostate patient to come early, but Mr. Wardill refuses his first urgent and most definite indication. He suggests that his cases are worse than mine. Well, I have refused no case of any type this year, and during this week three patients died before they could be admitted to nursing homes and each one of them had been waiting less than a week. Such is the standard of aseptic prostatectomy, and I doubt if such a standard has ever been set in any other type of prostatectomy, including transurethral resection. My figures include cases as bad as these.

"Simple suprapubic cystotomy" is a far, far more dangerous procedure than aseptic prostatectomy, and any surgeon who declines "routine preparatory anti-infective therapy" is wantonly refusing to take advantage of the marvellous advances of science. At every operation of moment pre-operative anti-infective therapy should be the general rule, because with all the will in the world infection may come from the surgeon, his assistants, and even the patient himself. After all, the microbe is the greatest living enemy of mankind.—I am, etc.,

Manchester. WILSON H. HEY.

Intravenous Adrenaline in Asthma

SIR,—In status asthmaticus, Sir Arthur Hurst's method of continuously injecting adrenaline subcutaneously at the rate of 1 minim (0.06 ml.) every 15, 30 or 60 seconds (according to the patient's tolerance) usually brings relief, and it is generally agreed that this is the most satisfactory method of treatment. In a few cases, however, the condition shows a marked tendency to recur. A patient will be relieved of his asthma in the evening only to wake up in the morning with bronchial spasm just as bad as ever. When this happens, adrenaline has to be injected as often as is necessary to keep the patient free from asthma. Very often the succession of paroxysms soon comes to an end; further administration of adrenaline is not required, and one can then proceed to the general treatment and investigation of the patient. Occasionally, however, status asthmaticus persists, and a time comes when large amounts of adrenaline by the subcutaneous route have little effect. One can inject syringeful after syringeful without relieving the bronchial spasm to any appreciable extent, and without producing symptoms such as tremor or tachycardia.

When this stage has been reached, I have found adrenaline by the intravenous route remarkably successful. Severe bronchial spasm is completely abolished in about five minutes, when previously the continuous subcutaneous injection of adrenaline for the best part of an hour has had little effect. I should emphasize that I have given adrenaline intravenously only when the injection of 1 ml. subcutaneously straight off has ceased to produce subjective symptoms such as tremor. The technique is as follows:

A tuberculin syringe graduated in hundredths of a ml. is used, and 0.15 ml. of a solution of adrenaline (1 in 1,000) is drawn into it. This is diluted to 1 ml. with sterile water, and of this 0.05 ml. is injected very slowly intravenously, and a pause made. At this point the patient experiences what he describes as a feeling of suffocation, and the bronchial spasm appears to become more severe. I have never seen tremor, tachycardia, or palpitations produced. This reaction passes off in a few seconds, after which the contents of the syringe are injected at the rate of 0.1 ml. every 30 seconds. No further subjective discomfort is experienced, and the bronchial spasm disappears. I usually follow up the intravenous injection by a subcutaneous injection of adrenaline to prolong its effect.

Aminophylline has been employed by some in "adrenaline-resistant" asthma, as has morphine, but these drugs are not always effective. In treating status asthmaticus I think a very important principle is to relieve bronchial spasm as completely as possible and as often as necessary. If this is done, the illness will be less prolonged, and less permanent damage will be done to the lungs.—I am, etc.,

Troon. JAMES ROSS.

Migrainous Headaches

SIR,—Mr. Cecil Tivy (July 27, p. 138) appears determined to label Gasserian injection as necessarily causing total anaesthesia of the cornea. This is not so, as he might have learnt from Case 3 in my article of May 18 (p. 754), of a schoolboy in whom I injected only 3 minims (0.18 ml.) alcohol, producing light analgesia of V. 1 and only diminished corneal reflex, but yet cure of his recurrent headaches.

Complete corneal anaesthesia following Gasserian injection is not such a serious handicap as Mr. Tivy seems to imagine, for if the eye is taken care of for a few weeks in the way I described in my letter of July 6 (p. 24), it usually gives no further trouble, as has been my experience in literally hundreds of cases. Severe keratitis and loss of sight in one eye is, of course, a serious occurrence, but it cannot compare with the crippling recurrent headaches of almost daily migraine, or the violent neuralgic spasms of trigeminal tic, which have often in the past led to suicide. Case 8, described in my article, indeed made such an attempt, but was subsequently cured by Gasserian injection, and though totally anaesthetic his eye has given no trouble. If my critic is still dissatisfied, I shall not trespass further on your valuable space.—I am, etc.,

London, W.1. WILFRED HARRIS.

Paralytic Ileus

SIR,—In connexion with paralytic ileus, first described, as I believe, by Mr. Sampson Handley, and on which you have given us several communications lately, I should like to submit a surgical measure designed to forestall its happening. I have neither heard nor read of it in the literature, nor written of it hitherto. It is intended for all cases of appendicitis in which there is reason to fear that the pelvis is in danger of becoming involved, or suspected of being so already.

The old routine practice of first exploring and dealing with the region of the appendix and then proceeding through this inferno to explore and drain the pelvis is a piece of work which, surely, no surgeon can feel happy about. If upon doing this the pelvis be found already involved, no harm, of course, has been done. On the other hand, if not, and there be found but a pool of clean-looking serum, or none at all, then the surgeon's finger has spread the conflagration. I suggest that in fact such artificial extension is even worse for the patient than a gradual one due to progressive spread of the inflammatory process. General shock is increased and local too, well calculated, as if by scalding, to paralyse the coils of intestine lying there by suddenly drenching them in poisonous pus.

My plan is to anticipate this danger by traversing a clean route. The pelvis is explored through a small suprapubic incision by passing a small swab down over the bladder with a long pair of pressure-forceps. It will show what kind of effusion, if any, lies below. If unquestionably foul, we have at any rate probably done no harm. But if not obviously foul, a tube no larger than a pencil is passed right down to the bottom, its outward end turned 3 or 4 inches (7.5 or 10 cm.) away to the left, and wrapped in *anti*-septic gauze and wool. This done, the wound is stitched up round the tube and

thoroughly covered with antiseptic dressings. Now, and only now, may the main focus be approached, and the further to the right the incision is placed the safer for the plan. Final drainage through a stab-wound in the flank will still further diminish the danger of contamination of the suprapubic wound. It seems difficult to me to overestimate the value of the pelvic tube as a safeguard, for it cannot be denied that even the gentlest handling may be too much for the barrier of peritoneal adhesion bounding the primary abscess, and even without this the process may spread by reason of its own virulence.

I have had no more than two or three opportunities of doing this since first thinking of the plan, but the effect was in every case thoroughly gratifying. The pelvic drain had done its work in a few days, normal peristalsis was quickly restored, and there was no contamination of the pelvic track. The original focus remained strictly localized.—I am, etc.,

Doncaster. WALTER REGINALD WILSON.

Immunization with B.C.G.

SIR,—Referring to your leading article (July 27, p. 125) on the B.C.G. deputation to the Minister of Health, I may say that there has come to my notice, since the completion of the memorandum which was presented, a development of possible importance which you may care to make available as an addendum to the information contained in the memorandum. As usually prepared, B.C.G. vaccine must be used within a few days, and, faced with the problem of sending it to far distant places, Russian scientists have been experimenting with methods of preserving it in the dry state for longer periods. They have found (Leshchinskaya, E. N.: The Immunizing Value of the B.C.G. Dry Glucose Vaccine. *Amer. Rev. Soviet Med.*, 1946, **3**, 210) that freeze-drying of a bacillary suspension in 50% glucose solution yields a product which retains full viability and immunizing efficacy for at least eighteen months.

A major difficulty in production at present is that the vaccine must be used before tests for virulence, or for the presence of virulent contaminants, can be completed, which necessitates the most rigid supervision and complicated precautions at all stages of preparation. If vaccine can be stored so that tests are complete before it is issued the process of production can be simplified both technically and administratively, and public confidence at the same time increased. Further, preparation of large batches at long intervals, rather than frequent small batches, may make for greater uniformity of dosage, and should reduce production costs. Preliminary experiments to test the efficacy of the Russian and of other comparable methods are at present under way.—I am, etc.,

Cardiff. W. H. TYTLER.

The "Intractable" Vesico-vaginal Fistula

SIR,—The object of my previous letter (May 18, p. 774) is achieved if I have been able to present a more hopeful picture of the curability of the vesico-vaginal fistula than that shown in certain recent publications—and reflected, it seemed, in Dr. Mackay's report—in which scores of uretero-colic transplantations have been recorded without, apparently, any adequate attempt having first been made in those cases to effect a direct repair of the bladder injury. With this main issue Drs. O. S. Heyns and P. Keen (July 20, p. 99) are more or less in agreement.

Dr. Heyns is, however, in error in supposing that I have the "impression that fistulae can be invariably cured by vaginal operation." I have never made so bold or unwarranted a statement. It is, however, my belief that the *great majority* of fistulae can be so cured, and in support I quoted a series of consecutive cases in which the opening had been closed by a straightforward plastic vaginal operation. It would be presumptuous of me to suppose—and I do not do so—that similar results can be obtained in the very different conditions that may obtain in other countries; nevertheless, the trend of my argument is unaltered, and is supported by Mahfouz's work in Egypt. There, also, cases are encountered which present problems of the greatest difficulty and complexity; there, also, many of the patients are debilitated by chronic disease; and there, also, the bladder is heavily infected with schistosomiasis. Yet Mahfouz was able to report after three hundred cases: "Of my last hundred cases I had 95% cured, 5% greatly improved." (I apologize to Dr. Heyns for omitting the necessary second reference to this work; it is: *J. Obstet. Gynaec. Brit. Emp.*, 1930, **37**, 566.) Excellent results have also been reported from India in a recent paper by Benion Thomas[1] of Madras.

I do not doubt that an unusually large proportion of the fistulae seen in native races such as the Bantu present features of special difficulty; but, although the patients seen in this country may conform to "a different clinical picture," Dr. Keen is wrong if he supposes that the cases quoted in my series were all of a simple nature. For example, more than half the patients had had previous operations—often multiple operations, six, eight, nine, and more—resulting in extensive and dense vaginal scarring. In several cases the fistula was adherent to the pubic ramus. In some the incontinence had lasted for many years—thirty-two in one case. In one the fistula was so large that the anterior wall of the bladder bulged into the vagina, and in another the bladder was completely everted and presented as a mass as large as a fist with the ureters spurting jets of urine from its surface. In several the cervix had sloughed off together with a variable amount of anterior vaginal wall; and in one the entire uterus had sloughed away (this patient[2] had been in labour for four days and had been delivered by the cranioclast). In one a radium burn had caused widespread destruction of bladder and rectum, resulting in the vagina's becoming a receptacle of both urine and faeces. In one the urethra had been torn from the bladder; and in two the urethra was entirely missing.[2]

It is with knowledge of these cases that I made the statement that the curability of vesico-vaginal fistulae is higher than is often supposed. Uretero-colonic transplantation—a formidable operation, although a godsend when alternative treatment is quite impossible—is but rarely required in fistula work; and this is also the opinion expressed by Mahfouz Pasha of Cairo. I am, etc.,

The Radcliffe Infirmary, Oxford. CHASSAR MOIR.

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1 *J. Obstet. Gynaec. Brit. Emp.*, 1945, **52**, 262.
2 *Proc. roy. Soc. Med.*, 1945, **38**, 662.

Amenorrhoea during Internment

SIR,—Dr. Annie Sydenham's paper (Aug. 3, p. 159) on amenorrhoea during internment brings prominently before us the scantiness of our understanding of the aetiology of this type of amenorrhoea.

While it is generally recognized that change of environment, metabolic disturbances, and emotional shock may lead to amenorrhoea, the *modus operandi* of these causes is unknown. It is probable that the inhibiting factor operates at some point in the endocrine chain, but what this factor is, where it operates, and how it is brought into play are all matters of conjecture.

It may be of interest to record somewhat parallel observations made while I was attached to the hospital of a Yugoslav refugee camp in Egypt during the latter half of 1944. Unfortunately no statistics were compiled, so I can only record impressions. Even in these days when our lives are ordered by numbers it is to be hoped that impressions based on observations are pertinent. In any case, the existence of amenorrhoea in a large majority of the women in this camp cannot be doubted. The camp had a population of 30,000 refugees—women and children, and men of non-military age or fitness—who had arrived in Egypt in batches between Dec., 1943, and May, 1944. In taking menstrual histories from female patients the reply, with monotonous regularity, was of amenorrhoea since arriving in Egypt, or, and this particularly in girls in their teens, of one period only after arrival in Egypt and then no more. A Serbian doctor who had accompanied the first batch from Yugoslavia, and who acted as my interpreter, looked upon my routine inquiries for a menstrual history as a joke, for he had come to regard amenorrhoea as the normal condition. He attributed it to altered environment and climate. (With regard to climate, it would be interesting and instructive to know if any investigations were made on menstrual variations amongst British female auxiliaries serving in hot climates.)

As to aetiology: environmental and climatic change was operative in all cases. Emotional shock may be assumed to have been experienced by all. Gross malnutrition and severe physical hardship had been the lot of a proportion of this community before escaping from Yugoslavia. The distribution

of the sexes made for an abnormal social set-up. The majority of the married women in the age group under consideration were separated from their husbands; many were widows; more feared or presumed themselves to be widows. I had no opportunity for judging whether amenorrhoea was less prevalent among the minority who had their husbands with them, but among the pregnant it was noticeable that frequently the period of amenorrhoea exceeded the period of gestation.

One environmental condition having strong psychic influence struck me as a possible aetiological factor. The refugees were housed in large tents holding ten to twelve beds or mattresses packed close together on each side. Several families, including both sexes, would occupy one tent. During the early months, at least, washing facilities were very limited and ablutions took place in public. In discussing with camp officials (Yugoslav) the hardships they had endured, pride of place was given to lack of privacy, and as the outstanding example of this they instanced the difficulty experienced by women in washing sanitary towels—an operation performed stealthily by night. One wonders if outraged modesty had been an effective emotional cause in producing a welcome amenorrhoea.

Dr. Sydenham's statement, "Absence of menstruation was a convenience," very accurately describes the situation which existed in the Yugoslav camp.—I am, etc.,

Ipswich. W. P. GRIEVE.

Rheumatic Fever

SIR,—Due probably to a poor choice of title, Dr. K. Douglas Wilkinson (Aug. 3, p. 174) seems to be under a misapprehension regarding the scope of my paper. I had hoped, however, that the subtitle would adequately indicate the nature of the contents. In fact the paper was a report upon the results of a convalescent centre, and the patients when admitted were convalescent. Many had been up-patients before transfer, and they came for a period of rest and a graduated return to activity. The first hospital to house the centre had been a country mansion taken over on the outbreak of war; the second hospital was a converted hydropathic establishment in the midlands. Neither offered laboratory facilities to make suitable investigations, even had they been worth while so late in the course of the disease. The nearest *x*-ray apparatus was some thirteen miles away, and needless to say *x*-ray examinations were made only in exceptional circumstances. Again, I think it most unlikely that any of the exciting appearances referred to by Dr. Wilkinson would have been seen at the stage of convalescence reached by these patients. Had it been possible for all rheumatic patients to be admitted under one roof from the outset of their illness such investigations as Dr. Wilkinson suggests would have been worth while. But they were scattered in small numbers throughout the country, and, quite apart from the problems of transportation, it is often and naturally difficult for a physician to relinquish a patient until pressure of bed space or a waning interest induces him to do so.

I am in entire agreement with Dr. Wilkinson that acute rheumatism is a very difficult subject, and my experience is quite insufficient for me to form an opinion on the question of allergy in the disease. Nor did I intend to convey the impression that I inclined to this belief, for as far as possible I have tried to keep an open mind on the subject. But when an authority like Coburn (1940) suggests that rheumatic fever is associated with abnormal immune response of the host due to heredity and environment, and discusses a state of sensitization of the reticulo-endothelial system in such an individual who does not handle respiratory infections with haemolytic streptococci in a normal manner, the opinion merits some consideration. This seems to me strangely like allergy, although it was perhaps rash of me to mention so controversial a subject. It may be better to regard the joint manifestations (which are not absolutely constant in rheumatic fever) as a non-specific reaction to the infection whether it be rheumatic, tuberculous, or due to a neurotropic virus. In invoking the effect of salicylates as his criterion for the specificity of the rheumatic joint manifestations it appears to me that Dr. Wilkinson is in danger of committing something akin to the logical fallacy of the undistributed middle. I suggest that the response of the joints is part of the general amelioration brought about by salicylates in much the same way that Sheldon (1946) found the joint manifestations to subside with constitutional improvement in tuberculosis.

Even the specificity of the Aschoff body seems no longer to be above suspicion. I realize that it is dangerous to argue from animal experiments, but it is interesting that Harrison (1946), after the experimental pulmonary infection of rats with pneumococci and staphylococci, found typical Aschoff bodies scattered throughout the heart. Of greater importance are perhaps the findings of Baggenstoss and Rosenberg (1941) in twenty-five cases of rheumatoid arthritis at the Mayo Clinic. At necropsy rheumatic heart lesions were found in fourteen cases and in seven of these there were typical Aschoff bodies. A history of rheumatic fever was obtained in only one of these cases.—I am, etc.,

Walton-on-Thames. H. STUART BARBER.

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Deafness from Rubella in Pregnancy

SIR,—I have read with much interest the letter written by Dr. Muriel Barton Hall (May 11, p. 737) reporting a case of congenital cataract, heart disease, and deaf-mutism in association with an attack of rubella six weeks before conception of the child. In this connexion it may be mentioned that Gregg (1941) described an instance of congenital cataract in a baby whose mother had contracted German measles three months before pregnancy. Subsequently he (1944) recorded an example of deaf-mutism in which it was not improbable that the infection had preceded conception. My colleagues and I (1944) observed a doubtful case, and later (1946) two negative ones, and postulated (1944) that the phenomenon could be explained on the basis of the known property of viruses of persistence in the tissues of the host for long periods of time after the original infection. I hope therefore that other observers will be stimulated to record such cases, rather than to suppress them as Mr. Ivor Hughes (May 25, p. 813) would apparently have them do.—I am, etc.,

Adelaide, S.A. CHARLES SWAN.

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Psychological Reactions in War-blinded

SIR,—Dr. W. M. Harrowes' most stimulating article "Psychological Reactions in the War-blinded" (July 27, p. 129) must be of great interest to all ophthalmologists who had to deal with such casualties in the recent war. The following observations on cases which were treated in a Mobile Ophthalmic Unit with the Eighth Army between 1941 and 1943 may be considered relevant.

Early Reaction to Loss of Vision.—The stoicism of these grossly mutilated young men—Briton, Frenchman, Greek, and Syrian alike—was amazing. Heavily bandaged from the first moment by their rescuers they might spend from one to three days jolting helplessly over the appalling desert tracks. Quietly they let the dressings be removed, but inevitably demanded an immediate prognosis as to the final function. This had to be given them in absolute truth, as any half-truth or evasion seemed quickly to be appreciated. But the extraneous noises of the now distant battle (and no doubt their knowledge of the protective value of canvas shelter and sandbags) put limits to their self-control. It was found impossible to expect full co-operation under local anaesthesia, and a "general" had to be the rule. Mr. H. B. Stallard found that by the time they reached Base Hospital they were sufficiently restored to co-operate under the local anaesthetic. In the canvas shelter the quiet of the badly wounded man appeared in strong contrast to the restless and equally heavily bandaged "psychiatric blind." Possibly the really genuinely injured man had solace in the knowledge that for him the seemingly endless sandy existence was finished. Two remarks stand out in my memory: one man saying just before operation, "For God's sake watch yourselves, I've had syphilis." The other later in Sicily, when in the remaining eye a fly maggot had crawled out from the anterior chamber the

patient thanked me for "getting rid of those wrigglers"—his sole remark.

Late Reaction to Loss of Vision.—I often wondered about the adjustment and final mental state of such men, with their very different outlooks: the regular soldier, the volunteer, and the conscript. The man wounded in the line of duty must have some consolation denied to the poor fellow who, disregarding warnings, finally "bought" one of these fiendishly effective booby-traps. So early in 1945 I wrote around to get details of men who had been evacuated through our unit. Unfortunately only a few answers were received, but I would mention with considerable gratitude the very comprehensive "follow-ups" received from St. Dunstan's (Mr. R. C. Davenport) and the institute at Temboni, Wynberg, South Africa. Beyond details of purely ophthalmic interest I did note the number of men doing well at massage. Yet these men had spent three years or so digging a fresh slit-trench daily. All I could think of was a slender historical thread passing back through the ages to the blind priests of Aesculapius. I was duly dealt with when it was pointed out that after passing a very stiff selection board they were trained and were often amazingly successful.

Tension.—One thing I remarked was that several of the men who had been injured by booby-traps had been noted as difficult in adjustment. Lack of education provided another handicap, along with sensitivity as to appearance.

Over-compensation.—An ex-member of the Special Air Service, trained for aggressive tactics, provided an excellent example, similar to Case 40.

Re-stabilization.—The reports on the South Africans who had gone back to their farms, so continuing their pre-war tenor of life with minimal upset, were interesting.

To conclude, can we ask Dr. Harrowes for a further article on these forty cases in, say, another five years? Much further adjustment will be demanded from these men when they no longer make a vivid impression on the national conscience, but have been relegated to the position of yet another "Good Cause," to be propitiated by yet another flag-day.—I am, etc.,

Catterick Military Hospital. G. C. DANSEY-BROWNING.

Sale of Tinned Meat

SIR,—Does not the recent outbreak at Witham of an epidemic of salmonella gastro-enteritis, which was found, as reported by Dr. F. E. Camps (July 27, p. 131), to have been started by the infection of slices of tinned meat in a butcher's shop, clearly show the danger of the present method of distribution of *slices* of tinned meat? I suggest that the medical advisers of the Ministry of Health look into this matter. Surely it would be safer to restrict the distribution to *grocers*, who would sell the sliced contents of opened tins at their bacon counter? Butchers should be allowed to sell whole unopened tins, but *not* meat from opened tins.—I am, etc.,

Letchworth. H. H. KING.

Book Reviewing

SIR,—In his letter on book reviewing, Mr. H. Osmond Clarke (July 20, p. 102) may not be so right as he thinks he is. But with regard to the case in point (*Injuries of the Knee-joint*), a perusal of the book indicates that your reviewer has done his work well. There are pros and cons in this subject. The system of anonymity, whereby reviews are entrusted to men who are selected because of their experience and special knowledge of the subject, has the advantage of allowing them to write impersonally and impartially without being exposed to the polemics of those who may not see eye to eye with them—e.g., the "pompous," "pontifical," and "unjustifiably censorious" adjectives which Mr. Clarke uses. The point that some reviewers may have already retired from practice is not in their disfavour: they bring to their subject a wide knowledge and experience in it, and they have sufficient leisure to make themselves *au fait* with all that is going on and can give your readers the benefit of a balanced retrospect.—I am, etc.,

Edinburgh. G. DOUGLAS GRAY.

SIR,—As an author and also a book reviewer I heartily endorse Mr. H. Osmond Clarke's suggestion (July 20, p. 102) that the names of reviewers or their initials be appended to all reviews in the *Journal*. A well-known critic once said that a reviewer's work can be done in three cuts: "First, cut it open, then cut it up, then cut it altogether." This laconic advice was meant to apply more especially to novel reviewing. In the case of medical works the procedure is not quite so simple. An unbiased critic—for nobody should attempt to review a book by an author against whom he may cherish some animosity, due, perhaps, to some ill-founded rumour or otherwise—should seize upon the good points *before* he pounces, hawk-like, upon the omissions. The latter may be relatively unimportant, or they may be out of the scope of the book as conceived by the author. The value of the first look-over as being likely to yield a correct impression upon the reviewer reminds us of Swift's dictum when he said, "Criticism, contrary to all other faculties of the intellect, is ever held the truest and best when it is the *very first result of the critic's mind*." (The italics are mine.) To concentrate unduly upon the faults and shortcomings of a book is, as Mr. Clarke remarks, most unhelpful, whereas friendly criticism and suggestions for improvement in the next edition will always help to gild the pill.

One reason for the preponderance of reviews of American works, pointed out by other correspondents, may be that publishers in the U.S.A. may not have been so hampered by paper restrictions as their British colleagues; but I do think that British works should definitely have the pride of place in the review columns of the *Journal*.—I am, etc.,

Ringwood. G. NORMAN MEACHEN.

SIR,—"Who killed John Keats?" It is generally believed that, as often before and since, it was the tubercle bacillus. But the author of the opening phrase of doggerel thought that the writer of the lacerating, unsigned notice in the *Edinburgh Review* of, I think, "Endymion," played a part. They are both dead. One has gone through the narrow gate reserved for genius. The other may disport himself in the wide fields kept for the mugwump. It is not suggested that merit receives similar harsh treatment in your columns. The reverse is usually the case. But there is an *ex cathedra* atmosphere about the reviews in the *Journal*. It may be the fault of the reader, but it could be avoided entirely by an end of anonymity; and the name of the reviewer would increase or diminish the respect felt.—I am, etc.,

London, S.W.1. E. GALLOP.

The London College of Osteopathy

SIR,—The advertisement in the *Lancet* to which Mr. W. E. Tucker (July 27, p. 141) calls attention raises an important question—what is the standing of the "London College of Osteopathy"? Leaving out any discussion on the theory or practice of osteopathy, I would remind any medical man who might be tempted to take advantage of the offer in the advertisement in the *Lancet* that the Select Committee of the House of Lords inquired very fully into the teaching of osteopathy in Britain, and found that the only existing establishment was the "British School of Osteopathy." After an extensive examination of the claims made by the Dean of that school, the Committee stated: "The only existing establishment in this country for the education and examination of osteopaths was exposed, in the course of evidence before us, as being of negligible importance, inefficient for its purpose, and above all in thoroughly dishonest hands."

No words could be stronger, and it is surely important to know if the "British School of Osteopathy," which the Select Committee condemned, and the "London College of Osteopathy," which the *Lancet* advertises, are one and the same. If not, has the "London College of Osteopathy" any better claim to be a teaching school?—I am, etc.,

London, W.1. MORTON SMART.

Population Statistics in Palestine

SIR,—Dr. W. N. Leak's letter (July 20, p. 98) demonstrates what absurd conclusions can be derived from statistics when other important relevant data are not taken into account. His statistics showed that "in some parts of the country the (Arab) birth rate was no less than four times the death rate," and the conclusion he naturally drew from his discovery was that "this rapid natural increase of the Arab population would certainly tax and probably overtax the resources of the country and lead

to scarcity and unrest." No account is taken of the primitive methods of land cultivation practised by Arabs; no consideration is given to the possibility of increasing the resources of the country by intensive cultivation of the soil made possible by the application of modern machinery and the use of water resources all previously undreamt of by the Arabs but now developed with such success by Jewish immigrants. Absorption of a portion of the population in industry, built up by Jewish enterprise, in the construction of roads, harbours, extension of the railway system, building, chemical works, etc., etc., is not even worthy of mention. No! The only conclusion drawn from his bare statistics on the political situation is that Jewish immigration, which has contributed most to the wealth of the country's economy, and has converted derelict waste land into fertile productive soil, must be stopped, because the Arabs might wrongly think that famine conditions, which might never arise, were due to Jewish immigration. I suppose Dr. Leak never thought of recommending another solution to check the phenomenal increase of the Arab population—i.e., the checking of Arab immigration from the adjoining territories of Syria and Transjordania? After all, Jewish immigrants have all been absorbed economically and do not breed as fast.—I am, etc.,

London, N.10. I. S. Fox.

Colonial Medical Service

SIR,—I have followed the correspondence upon the conditions in the Service with much interest. A point that I do not think has been made sufficiently clear is that the Colonial Medical Service is not a service in any way comparable in organization with those of the Forces. The title connotes a very limited central control, by the Secretary of State, of the medical staffs of some 35 colonies and protectorates, varying from small islands to large territories, such as Nigeria; and a man entering the Service is in fact joining the staff of whichever territory he goes to, with its own local conditions of service. It therefore behoves him to choose his colony carefully.

Before the so-called unification of the Colonial Medical Service certain colonies offered similar terms, and were grouped into such titles as the West African Medical Staff, East African Medical Service, Malayan Medical Service. Within each group salary scales, length of tours, retiring age, and pension rates, etc., were similar. The grouping still continues, though the titles are no longer valid. The advertisement for "His Majesty's Colonial Service" has recently been redrafted, probably as a result of the representation of the B.M.A., but in its new form (June 8, p. 9) it is still somewhat misleading. Senior members still smile at its attempt to paint a rosy picture. It states ". . . numerous posts are filled from within the Service for work in special branches . . .", and lower down, "There are large numbers of super-scale posts. . . ." Candidates should appreciate that the "numerous posts" are in fact the super-scale ones for which he will be eligible, at the present rate of promotion, after approximately the fourteen years' service as a general field medical officer that "Ex-Africa" refers to (*Supplement*, June 1, p. 163).

The clinical side of the Service is of less importance to headquarters than the administrative, and a young officer who is keen on a special subject, or indeed possesses a higher diploma, such as Membership, or D.A., is a positive embarrassment to his department, as all they want of a new arrival is that he will be a unit to post to an out-station in relief of another officer due for leave.

The Service history of an officer in one of the larger African colonies will illustrate the above. Joining with "Primary," he spent a tour as the only M.O. in an isolated station with little surgery. An application for study leave to complete the Fellowship was turned down. However, by devoting his entire normal six months' leave to work he obtained his F.R.C.S., the expenses and fees being borne by himself. He married and returned to duty. After a few months he was posted to a lonely military outpost where women were not permitted, and had perforce to send his wife "home." During his year there he performed one obligatory major operation. After thirteen years' service he was transferred as surgical specialist to another colony, where he served throughout the war years. Granted four months' leave in 1945 he applied for a period of surgical rehabilitation, but was refused owing to "staffing difficulties" by his Government. Upon his return he appealed to the Colonial Office, but was informed that the Secretary of State could do nothing as he was bound by the wishes of local administration. Study leave, instead of being encouraged, is indeed rarely granted.

Speaking to a question recently in the House of Commons, Mr. Hall (as reported in the *Journal*) acknowledged that the terms for specialists were inadequate, but added that "he had recently made proposals to a number of Colonial Governments designed to remedy this defect. Some of the Governments had agreed to the proposals, others still had them under consideration"—a reply which demonstrates how unified the Colonial Medical Service is in fact.

"Another West Coast" (June 15, p. 931) is correct in advising the new entrant to concentrate on office work if he is to keep his eyes blue with medical headquarters. Accurate returns are more gratifying than the results of a clinical study. On the East Coast, senior medical officer and specialist are on the same salary, £1,100 per annum. The specialist, having chosen the professional side, has reached the highest he can go, but the S.M.O., whose work is mostly or entirely administrative, is still on the ladder to A.D.M.S., D.D.M.S., and finally D.M.S. up to a salary of £1,500 per annum. Transfers are becoming easier to obtain, but an officer offered promotion on transfer has to be very careful to keep within his "group" or he may find that he will have to serve five years longer than his previous agreement before being permitted to retire on a smaller pension than that to which he would have been entitled if he had remained where he was. It may thus pay him better to decline promotion.

The Colonial Medical Service will be a good career when it is truly unified, with uniform basic rates of pay for definite grades of officers throughout the Colonial Empire, terms of service being firmly controlled by the Secretary of State as they are in the Army, Navy, and Air Force.—I am, etc.,

"ANOTHER EAST COAST."

Re-education of Germany

SIR,—I, for one, am unable to muster up the faintest sympathy for the view expressed by Dr. Alexander Comfort (July 20, p. 104). If, during the coming quarter-century, the world is to avoid a third German aggression, the German people (physicians included) must have it ceaselessly dinned and drummed into them that they were the vanquished and not the victors; thus they may perhaps come to realize, at long last, that war does not pay. Enforcement of public recognition of our National Anthem is a very mild, but none the less a salutary, measure directed to this end.

At the risk of bruising Dr. Comfort's tender feelings, which are so very easily moved to "indignation," allow me to say that I rejoice to hear of firm action of this kind on the part of our forces of occupation; long may it be continued. As for the fear of dissipation of "accumulated goodwill," it seems that Dr. Comfort values German goodwill more highly than I do.—I am, etc.,

Cottingham. NIGEL W. ROBERTS.

SIR,—Dr. Alexander Comfort (July 20, p. 104) takes upon himself to criticize, rather sweepingly, the sentence passed on a German doctor in the British zone who insulted our King by failing to pay that proper respect which should be shown at the playing of the National Anthem. He said that he did not know the German in question. Neither do I know Dr. Comfort. For my part, I was a soldier for six years and, my release notwithstanding, I continue to regard myself as such, and at the risk of offending Dr. Comfort's susceptibilities I feel bound to point out that I consider the sentence lenient.

Those of us who had the honour to be part of the original B.E.F., and who were thereafter made prisoner, had a perhaps exceptional opportunity of studying the German mind at closer quarters than were vouchsafed to others whose contact with the enemy was more remote. As such a one I consider that I am in a position to speak with some authority on questions related to the treatment of the German race.—I am, etc.,

Bedale. CHARLES ILIFFE.

⁂ This correspondence is now closed.—ED., *B.M.J.*

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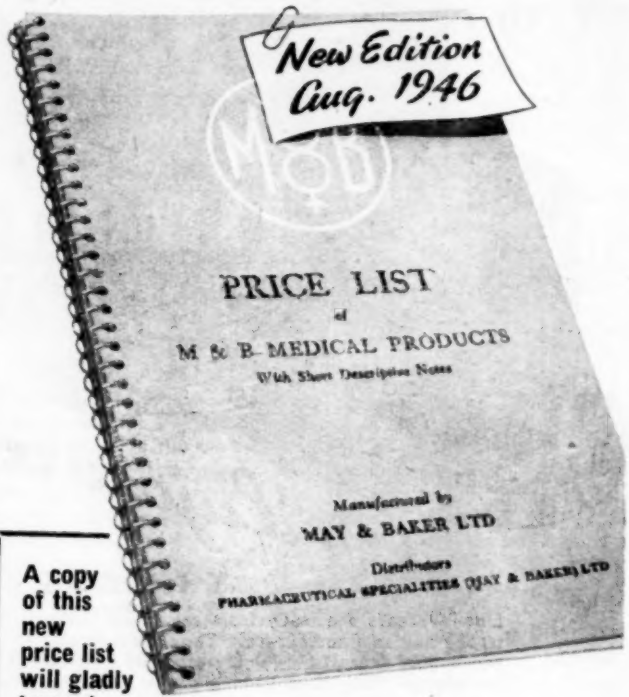

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Obituary

H. A. COLWELL, M.B., Ph.D., M.R.C.P., M.R.C.S., D.P.H.

Dr. H. A. Colwell died on July 22 at the age of 70. He was a medical scholar all his life, though he was for many years an executive medical officer in various capacities, and this scholarly attribute exhibited itself throughout his life in writing which reached a high level of distinction. His studentship at St. Bartholomew's Hospital showed Colwell to be a man well able to take all of the intellectual hurdles in front of him, and he qualified at London in 1900. A short spell of medical practice convinced him that his life's work was in other fields and he joined the staff of the cancer research laboratories of the Middlesex Hospital. His experimental work there with Prof. Russ was interrupted by war and the years 1916–18 found him serving in the R.A.M.C. as a major; he was a very valued officer for his all-round medical qualifications came into their own, and his knowledge of languages, both ancient and modern, allowed him to resolve many administrative difficulties on the spot. Enteric was rife in his district and he eventually became so ill that he was invalided to Malta for convalescence.

On returning to England he joined Robert Knox in radiotherapy at King's College Hospital, where eventually he was put in charge of the department. He resigned when he was about 60, and after that his leisure was devoted to writing, and it was during this period that his meticulous accuracy and wide knowledge were put at the service of the Oxford University Press. Colwell's medical writings may be said to begin with *Radium, X Rays and the Living Cell* (1915), written in collaboration with Russ. This book came at a time when it served the needs of the growing numbers of medical men and women entering the field of radiology. Colwell and Russ also collected the evidence of *x*-ray and radium damage since 1895, and in 1935 published *X-ray and Radium Injuries.* Colwell had an incisive pen at times, witness what he says on the subject of radium quackery. It was about the year 1935 that the unscrupulous were passing on to the public radio-active preparations to eat or drink or apply as beautifying agents. Colwell's comment was to the point: "One thing about such preparations is quite plain, if they are not radio-active as they claim to be they are fraudulent; if they fulfil that claim they are dangerous." He pleaded further that radio-active substances should be scheduled as poisons, but was careful to add that "it takes time to convince the legislative mind." His other writings include *An Introduction to the Study of X Rays and Radium* with Wakeley, and a very delightful contribution to quite another subject, *A History of Electrotherapy and Diagnosis.* His historical leanings were also shown in a memoir on Gideon Harvey.

He had a life-long interest in malignant disease; he served on the Council of the British Empire Cancer Campaign, and in 1935 was awarded the Garton Gold Medal and a prize of the British Empire Cancer Campaign for an essay on the "Biological Effects and Mode of Action of Radiations upon Malignant and Other Cells." Hector Colwell was a gifted man of rather retiring disposition; he was a beautiful pianist and no ordinary linguist. His friendships were few but were generally for life. His wife died in January of this year and he never recovered from this loss.

WILLIAM GEMMILL, Ch.M., F.R.C.S.

William Gemmill, joint professor of surgery in the University of Birmingham, died at his home at Edgbaston on July 28, almost at the moment of cessation of his active association with the University and with the staff of the United Hospital, Birmingham. He was appointed as assistant surgeon to the staff of the Queen's Hospital in 1920 and devoted himself for twenty-six years to the work of the Birmingham medical school, being appointed to the chair of surgery in 1932 on the death of Prof. William Billington. Born in Ayrshire, he trained at Edinburgh. He took the M.A. in 1901, graduated M.B., Ch.B. in 1905, and proceeded to the English F.R.C.S. in 1913, and finally to the Birmingham Ch.M in 1933. In the war of 1914–18 he was in charge of the surgical division of a general hospital in France. He had been a member of the B.M.A. for twenty-five years and was president of the Birmingham Branch from 1938 to 1943.

Gemmill was a man of great character and natural kindliness, with an outer crust of reserve and shyness which made him difficult to know. The more you knew him, however, the more he had to give, and his extensive practice in the Midlands was a tribute to the great personal esteem in which he was held by numerous practitioners and past students. He was a general surgeon in the best meaning of that term, with a broad basic knowledge of surgery and a wide experience in many fields. The war to some extent diverted his early training, and whilst it gave him a broad outlook, which only war can give, it probably prevented his specialized training in neurosurgery, in which he was always deeply interested. As a teacher he was at his best at the bedside, where his methodical examination, his acumen in grasping the salient points in a case, and his power of securing the confidence and co-operation of the patient gave his dressers a clinical lesson which they never forgot. He was wholly absorbed in his work and his patients and put himself so unreservedly at the call of practice that he found little time for writing or recreation. An annual holiday in his homeland, one felt, was for him something in the nature of a pilgrimage and to the last his dream was of retiring there—a dream to remain unfulfilled owing to his untimely death.

S. G. B.

Dr. T. DOUGLAS BROWN, a member of the British Medical Association for fifty years, died on July 17 at Bournemouth. He received his medical education at Glasgow, graduating M.B., C.M. in 1894. In 1904 he proceeded M.D. of Glasgow University, and he worked in Glasgow until 1914. During the war of 1914–18 he served as a Territorial medical officer, first as a captain, R.A.M.C., attached to the 9th H.L.I., and later as a major, and second-in-command of a field ambulance, and subsequently he was in charge of the Cambuslang and finally the Yorkhill military hospitals. On demobilization he settled in Bournemouth. His personal kindliness and sympathy, added to his professional knowledge and skill, soon made him one of the best-known medical practitioners in the area. In spite of a long illness, which he bore with great patience and fortitude, he continued to practise right up to a few weeks before his death. He was a fine practitioner, and through all his fifty years of practice he kept abreast of modern developments in medicine. He had a keen sense of humour and a kindly, gentle manner which endeared him to a large circle of patients and friends, who now mourn his loss. His widow helped and comforted him through the long period of illness and increasing weakness, and now has the sympathy of all who knew and loved him.

Dr. GEORGE MACKIE died on July 20 after several months of illness. He studied at Edinburgh, taking the M.B. in 1899 and the M.D. in 1922. He came to Malvern in 1902 as assistant to the late Dr. Brockatt, and immediately plunged into very busy practice, including attendance on the boys at Malvern College and the pupils of several well-known schools. During the war of 1914–18 he served in France in the R.A.M.C. with the rank of lieutenant-colonel, and was three times mentioned in despatches and received the D.S.O. In 1921 he received the Territorial Decoration. After an absence of ten years he returned to Malvern and again took up general practice. As County Director of the British Red Cross Society he gave of his best to that work in Worcestershire, and during the recent war was responsible for the organization and administration of the Worcestershire convalescent hospitals. In 1944 he was awarded the O.B.E. (Military Division) for his work in connexion with the Home Guard medical services in the county. Dr. Mackie was a man of many interests, and his ideas for the development of Malvern into a health centre for sufferers from rheumatic and cardiac complaints revealed imaginative and creative ability of the highest order. He will be missed by a wide circle of patients and friends, whose sympathy will go out to his widow, son, and daughter.

GEORGE RONALD PYM ALDRED-BROWN died suddenly at his home in Bath on July 26. He was 49 years of age, and by his untimely death Bath loses yet another of her young consultants. He was educated at Harrow and Keble College, Oxford, where he took his B.A.; he graduated M.B., B.Ch. at the London

Hospital in 1924. In 1938 he took his M.D. degree at Oxford. Aldred-Brown had served for three years in the 1914–18 war, as a captain in the Royal Field Artillery, and during this time the seeds of his illness were sown. He came to Bath from Dorset, where he had held the post of physician, pathologist, and bacteriologist at the Dorset County Hospital. In 1930 he was elected honorary physician to the Royal National Hospital for Rheumatic Diseases. In due course he became senior physician and chairman of the medical board. The war upset all the plans for the building of a new hospital, and was a keen disappointment to Aldred-Brown, who had worked so hard to make the project a success.

During the war years the staff of the hospital was greatly depleted, but in spite of physical disability Aldred-Brown carried on, and indeed will be remembered by many for the manner in which he planned and achieved the present rehabilitation and remedial therapy department. In 1945, after fifteen years' service to the hospital, he was elected an honorary consulting physician. Aldred-Brown was widely known for his interest in rheumatism and was chairman of the Bath International Conference on Rheumatic Diseases in 1938. He was a member of the International Society of Medical Hydrology and of the International League against Rheumatism. He contributed several papers to the more specialized journals. He was a keen golfer and tennis player. Aldred-Brown will be sadly missed by his patients and medical colleagues.

The Services

The Efficiency Decoration of the Territorial Army has been conferred upon the following officers: Lieut.-Col. (Temp. Brig.) A. A. Eagger (T.A.R.O.), Major (Temp. Lieut.-Col.), J. V. Bradley, Hon. Major J. N. Martin, and Majors T. T. S. Hall, M.B.E., W. L. Kinnear, M.B.E., and W. G. Platt, R.A.M.C.

The following appointments and mentions in dispatches have been announced in recognition of gallant and distinguished services in Malaya in 1942.

C.B.E. (Military Division).—Brig. (Temp.) C. H. Stringer, D.S.O., O.B.E., late R.A.M.C.

O.B.E. (Military Division).—Lieut.-Col. D. C. Chopra, I.M.S. (since died).

M.B.E. (Military Division).—Major (Temp.) C. W. Maisey, R.A.M.C.

Mentioned in Dispatches.—Brig. (Temp.) C. D. K. Seaver, and Cols. E. Percival, D.S.O., M.C., and V. H. Wardle, M.C., T.D., late R.A.M.C., Brig. (Acting) D. S. Middleton, Col. (Temp.) J. Bennet, Col. (Acting) J. Taylor, O.B.E., Lieut.-Col. J. W. Craven, M.C., T.D., Lieut.-Col. (Temp.) W. G. Harvey, Major (Temp.) H. M. S. G. Beadnell, M.B.E., Majors (Acting) P. R. Graves, M.B.E., and H. Henderson, Capts. J. E. A. Bartlett, M. H. Churchill, T. R. S. Cormack, E. K. Cruikshank, J. G. Jesson, J. A. Mark, W. H. McDonald, T. B. Smiley, M.C., and R. B. C. Welsh, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Died at Sea.—Surg. Lieut. Ian Mackenzie, R.N.V.R.
Died at Sea.—Capt. James McAllister, R.A.M.C.
Died in India.—Lieut.-Col. Michael Henry Wace, I.A.M.C.

DOMVILLE MEMORIAL GIFT

The trustees wish to elect, on or about Sept. 18, a recipient of the above Gift, the present value of which is £7 yearly, tenable for three years. The recipient must be a child of a deceased naval medical officer, in necessitous circumstances and under 15 years of age. Particulars of claims, with birth certificates, must reach the honorary secretary, Domville Memorial Gift, Haslar Hospital, Gosport, Hants, by Sept. 12. Further information regarding the Gift may be obtained from the same address.

NORTH PERSIAN FORCES MEMORIAL

The War Office announces that the North Persian Forces Memorial Medal will be awarded again next year after a lapse of nine years. This memorial was founded in 1923 by officers of the R.A.M.C. and the I.M.S. who served with the North Persian Forces during the war of 1914–18 to commemorate the services of those forces and to encourage the study of tropical medicine and tropical hygiene. The memorial takes the form of a silver medal and is awarded annually for the best paper by a single author on tropical medicine or tropical hygiene published in any journal during the twelve months ending Dec. 31 by any medical officer of under twelve years' service in the R.N., R.A.M.C., R.A.F., I.M.S., or the Colonial Medical Service. Only officers on a regular or short service engagement in the R.A.M.C., R.A.F., and I.M.S. are eligible for the award. The award is announced in the latter part of the year following that in which the paper was published, provided that the memorial committee consider the paper to have attained the standard of merit justifying the award.

Universities and Colleges

UNIVERSITY OF OXFORD

In a Congregation held on July 27, the following degrees were conferred:

D.M.—C. W. Hope-Gill, R. C. Browne.
M.CH.—S. F. Taylor.
B.M., B.CH.—G. N. Chandler, D. H. Brooks, J. N. Cozens-Hardy, R. H. Hardy, P. L. Pickering, J. M. K. Spalding, J. L. Hadley, P. S. Brown, B. McConkey, H. L. Backhouse, G. A. K. Missen, Margaret Lingard, Jean C. Ritchie, *H. J. F. Cairns, *P. M. de C. Williams, *L. T. Cotton, *A. G. Hayter, *P. R. Clay, *Gert L. Loewi, *Diana Geekie, *Marianne E. Rooth.

* In absence.

UNIVERSITY OF LONDON

William Charles Wallace Nixon, M.D., F.R.C.S., F.R.C.O.G., has been appointed to the University Chair of Obstetrics and Gynaecology tenable at University College Hospital Medical School as from Oct. 1.

Ronald Hare, M.D., has been appointed to the University Chair of Bacteriology tenable at St. Thomas's Hospital Medical School as from Oct. 1.

The title of Professor of Physiology in the University has been conferred on Walter Rowoth Spurrell, M.S., F.R.C.S., in respect of the post held by him at Guy's Hospital Medical School.

The title of Professor of Clinical Pathology in the University has been conferred on Robert James Valentine Pulvertaft, M.D., F.R.C.P., in respect of the post held by him at Westminster Hospital Medical School.

The title of Reader in Pathology in the University has been conferred on Sigiberto Jose De Navasquez, M.D., in respect of the post held by him at Guy's Hospital Medical School.

The following candidates have been approved at the examinations indicated:

M.D.—*Branch I (Medicine):* B. F. Gans, A. J. Glazebrook, W. W. Gooddy, J. F. Goodwin, P. Harvey, C. F. Hawkins, J. C. Houston, M. E. MacGregor, J. D. N. Nabarro, C. S. Nicol, D. W. Pugh, R. D. Tonkin, J. R. Trounce, B. G. Wells (gold medal), D. A. J. Williamson. *Branch II (Pathology):* H. Caplin, G. D. Lumb, J. A. H. Wylie. *Branch III (Psychological Medicine):* A. M. Edwards, P. H. Tooley. *Branch IV (Midwifery and Diseases of Women):* Ursula M. Lister. *Branch V (Hygiene):* H. S. Davies, G. H. Taylor, J. Watkins-Pitchford. *Branch VI (Tropical Medicine):* A. F. Russell.
M.S.—*Branch I (Surgery):* Katharine M. H. Branson. *Branch IV (Laryngology, Otology, and Rhinology):* C. McK. Johnston, J. B. Musgrove.

UNIVERSITY OF WALES

The following candidates at the Welsh National School of Medicine have satisfied the examiners at the examinations indicated:

M.B., B.CH.—*Pharmacology:* Maureen M. Bassett, C. H. Burman, Sarah A. Chard, A. V. Coleman, D. P. Davies, G. J. Davies, F. J. Davis, *Joan V. Davis, E. F. Griffiths, E. J. Hargadon, J. M. E. Hyde, E. G. A. Jackson, Marjorie L. James, J. H. Jones, T. D. Jones, D. M. D. King, Doreen M. R. Lewis, R. H. Lewis, C. S. Livingstone, Joan A. McLay, J. E. Mitchell, Lilian M. Morgan, M. A. Owen, D. St. J. D. Rees, G. M. Reynolds, Frances M. Richards, J. M. Richards, Esmé S. Rogers, Sybil H. Stephens, C. E. Stroud, Augusta J. Taylor, G. Thomas, J. D. Thomas, J. H. S. Wakelin, J. A. Wilkinson. *Pathology and Bacteriology:* A. J. Dark, Marjorie J. A. Davies, D. W. John, H. E. Jones, Margaret O. Jones, Rosina E. Jones, J. G. Leopold. *Medicine:* G. E. Davies, Margaret E. Davies, Gwenllian M. Griffith, S. T. James, A. S. Jones, Mary Lawrence, R. Medlicott, Jean T. Smith, J. G. Tomkins. *Surgery:* *T. J. Anthony, Norah C. Curran, C. H. L. Howells, Eluned K. Jones, H. T. Jones, Nest Jones, F. I. Powell, Myfanwy M. G. Prethero, B. F. Richards, Prudence K. Roberts, Mary Smith, Heather Stockdale, T. M. Warren, K. P. Williams. *Obstetrics and Gynaecology:* D. R. Bowen, Joan P. Ciantar, A. C. Coulthard, G. C. Davies, Janet Dean-Jones, *G. S. Foster, C. Havard, D. W. James, Margaret E. B. Jones, W. R. King, J. B. R. Lewis, L. T. Lewis, Constance A. M. Llewellyn, Margaret I. Morgan, Vivien J. Parker, L. T. Rees, G. G. Richmond, S. Solomon.

* With distinction.

UNIVERSITY OF DUBLIN

On July 3 the degree of Litt.D. (Stip. Cond.) was conferred on James Johnston Abraham, C.B.E., D.S.O., M.D., F.R.C.S., consulting surgeon to Princess Beatrice Hospital, London, S.W.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a quarterly comitia of the College, held on July 25, with the President, Lord Moran, in the chair, the following were elected officers for the ensuing year: *Censors,* G. E. S. Ward, E. B. Smith, W. Johnson, Sir Adolphe Abrahams; *Treasurer,* W. G. Barnard; *Registrar,* H. E. A. Boldero; *Assistant Registrar,* W. D. W. Brooks.

The Registrar announced that Jacob David Judah was awarded the Murchison Scholarship for 1946. Dr. W. E. Hume was elected the representative of the College on the Council of King's College,

University of Durham. Dr. C. E. Lakin was appointed Harveian Orator and Dr. Janet Vaughan Bradshaw Lecturer, both for 1947. The following Lecturers for 1947 were also appointed: *Goulstonian*, Dr. F. Avery Jones; *Lumleian*, Dr. J. P. Martin; *Oliver-Sharpey*, Prof. F. C. Bartlett; *FitzPatrick*, Sir Arthur MacNalty; *Lloyd Roberts*, Mr. Harold Nicholson; *Humphry Davy Rolleston*, Dr. P. C. P. Cloake.

The following, having satisfied the Censors' Board, were elected Members of the College:

R. Al-Mankabadi, M.B., C. D. Anderson, M.B., D. A. P. Anderson, M.B., Abd-el-Hamid A. A. Ata, M.B., D. A. Ballantyne, M.B., H. S. Barber, M.D., G. Behr, L.R.C.P., R. C. S. Benson, M.B., T. S. L. Beswick, M.B., D. W. Beynon, M.B., E. J. Blair, M.D., Anne Bolton, M.B., N. R. Butler, M.B., J. E. Cates, M.D., F. E. de W. Cayley, L.R.C.P., M. Chitters, M.B., J. W. C. Cochrane, M.D., W. H. R. Cook, M.B., I. S. Dalton, M.B., H. E. De Wardener, M.B., R. C. S. Dick, M.B., H. Droller, M.D., Margaret E. Edmunds, M.B., A. C. Elithorn, M.B., G. R. Fryers, M.B., W. R. Gauld, M.D., J. A. L. Gilbert, M.B., A. Guedatarian, L.R.C.P., M. Hamilton, M.B., J. B. Heycock, L.R.C.P., G. E. Hosking, M.B., C. A. Houlder, M.B., A. M. Jelliffe, M.B., E. S. Jones, M.B., J. D. O. Kerr, M.B., P. D. C. Kinmont, M.B., S. C. Kusumgar, M.B., J. W. Lacey, M.D., D. R. Laurence, M.B., E. Leigh, M.D., D. C. Lewin, M.B., L. A. Liversedge, M.D., G. Lorriman, M.B., Flying Officer B. H. McCracken, M.D., R.A.F.V.R., A. J. S. McFadzean, M.B., F. McL. McGown, M.B., Surg. Lieut. G. MacGregor, M.B., R.N.V.R., K. S. MacLean, M.B., Mary L. Mittell, M.B., J. H. Moseley, M.B., B. Moshal, M.D., Major P. B. Ll. Muldoon, M.B., R.A.M.C., G. R. E. Naylor, M.B., C. S. Nicol, M.B., J. C. R. Nuttall-Smith, M.B., A. B. Pollard, M.B., B. W. Powell, M.B., Capt. S. B. Rampling, M.B., R.A.M.C., T. L. Reeves, M.B., F. Robertson, M.D., G. R. Royston, M.D., K. J. Samson, M.D., R. Semple, M.B., N. M. Shah, M.D., Sheila Sheehan, M.B., J. R. Sinton, M.B., R. B. Sloane, M.B., D. Stafford-Clark, M.B., R. P. Strang, L.R.C.P., J. A. Strong, M.B., H. J. C. Swan, M.B., N. G. Talwalkar, M.D., P. E. R. Tattersall, M.B., D. C Thursby-Pelham, L.R.C.P., H. Urich, M.B., G. C. Wells, M.B., D. A. J. Williamson, M.B., B. D. R. Wilson, M.B., C. Wilson, D.M.

Licences to practise were conferred upon 118 candidates (including 27 women) who had passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Board and who have complied with the necessary by-laws:

A. R. L. Abel, Davida M. Adams, D. M. C. Ainscow, E. J. Allaway, Barbara M. Ansell, Constance M. A. Bachtin, M. E. Bailey, S. Balfour-Lynn, Joan A. Barrett, H. D. Beckett, E. I. Bieber, D. Bigley, D. K. Briggs, R. H. Broughton, H. Caplan, V. L. Cartledge, D. M. T. Cones, P. D. Crosbie, A. M. Davies, P. R. Davis, R. C. Davison, Rosemary Dearden, Mary M. Dickinson, Romola D. Dunsmore, D. R. Edwards, H. E. Ffoulkes, G. H. Fisher, D. P. Fitzgerald, I. Fletcher, Frances M. Fountain, R. O. J. Fry, J. D. Fuller, B. D. Grant, Dora Green, H. G. Griffin, I. R. Haire, P. H. T. Hall, F. A. E. Hamilton, G. J. L. Hamilton, J. R. Handforth, J. J. Hopkinson, R. J. Howat, Edna G. Howe, G. Hughes, G. C. Hunter, I. Jackson, P. D. C. Jackson, T. Jackson, Glyndwr Jeffreys, N. B. Jetmalani, R. John, J. W. G. Johnson, Catherine M. E. Jones, C. W. L. Jones, D. W. W. Jones, I. S. M. Jones, Thelma D. Jörgensen, R. S. Kagan, R. C. Keane, G. W. Korn, Marjorie A. C. Kuck, T. D. Lambert, Gertrude Latner, K. Lawrance, R. M. H. Layland, M. B. Lennard, C. Levin, T. L. T. Lewis, R. I. T. Lindsay, Janet G. S. McDowall, E. P. Mackenzie, H. H. Margulies, Margaret A. Marten, T. C. H. Mathews, Gladys A. Meigh, G. S. Metters, J. R. Mikhail, Kate H. Miller, P. R. Miller, J. B. Moore, N. S. Moores, Marguerite F. E. Morford, C. P. Newcombe, W. Nixon, J. A. Noblett, L. W. Oxenham, J. Parkyn, J. Pavey-Smith, B. W. Perlow, J. I. Pugh, R. J. Randall, H. M. Rayner, G. A. Readett, R. Renwick, Beatrice E. S. Richards, J. P. R. Richardson, J. F. S. Robertson, K. W. Robinson, H. E. Robson, P. N. Robson, Rosemary J. M. Rose, B. L. L. Rygate, Jutta Scharfstein, D. Seymour, B. E. Shairp, Dorothy M. Silvester, Patricia M. Stanwell, K. D. Stewart, Janet Sutherland, C. K. M. Thacker, Joan M. H. Thomas, J. Thompson, P. Timmis, L. Walkden, R. W. W. Watson, F. E. Webb, A. A. Weyman, J. L. Whitmore.

Diplomas in Public Health were granted, jointly with the Royal College of Surgeons of England, to the following successful candidates:

J. Beeston, Phoebe Charlton, B. A. Coghlan, R. V. Coxon, Enid G. M. Cummings, H. S. Fraser, S. MacL. Frazer, A. A. Huse, J. P. Kennedy, A. A. Lewis, G. L. McLeod, Mary N. MacQ. Paulin, Mary Roland, R. G. Samuel, E. L. Tee, R. L. Worrall.

Diplomas in Anaesthetics were granted, jointly with the Royal College of Surgeons of England, to the successful candidates whose names were published in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of July 6 (p. 29). Diplomas in Laryngology and Otology, in Psychological Medicine, and in Tropical Medicine and Hygiene were granted, jointly with the Royal College of Surgeons of England, to the successful candidates whose names were published in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of July 27 (p. 143).

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At a meeting of the Council, held on Aug. 1, with Sir Alfred Webb-Johnson, Bt., President, in the chair, Prof. G. Grey Turner was re-appointed as representative of the College on the Council of King's College, Newcastle-upon-Tyne, for a further period of three years. A gift of a silver bowl was received from Mr. W. E. Tanner. The thanks of the Council for assistance in the preservation and development of the Museum were given to Sir James Walton, Mr. Warren R. Dawson, and Prof. F. Wood Jones. Mr. L. Carnac Rivett was invited to attend meetings of the Council during the ensuing year as the representative of gynaecology and obstetrics.

Diplomas of Membership and Diplomas in Public Health were granted, jointly with the Royal College of Physicians of London, to the successful candidates whose names were printed in the report of the meeting of the Royal College of Physicians of London. (See list above.)

Medical News

The trustees of the Leverhulme Research Fellowships have approved the award of a grant to E. H. F. Baldwin, B.A., Ph.D., lecturer in biochemistry in the University of Cambridge, for research into the comparative biochemistry of nitrogen metabolism. Application forms for Fellowships and Research Grants may be obtained from the secretary of the Fellowships, 7, Bedford Row, London, W.C.1.

Lord Moran has been re-elected President of the National Federation of Personal Health Associations; Dr. John Hall, of Liverpool, chairman; and Mr. T. Crew, Leicester, hon. secretary.

EPIDEMIOLOGICAL NOTES

Typhoid Epidemic

The number of cases in the typhoid epidemic at Aberystwyth continues to increase. It was suggested in our account of August 10 (p. 206) that there were likely to be more cases at Aberystwyth and at other parts of the country in returning holiday-makers. Up to August 13 notifications had increased to 110, and there had been two fatal cases—one at Aberystwyth, and another at Llanelly. Cases infected at Aberystwyth, apparently on July 11, by ice-cream contaminated by the typhoid carrier who made it and sold it have now been reported from Northampton (5), Birmingham (5), Oldbury, Worcestershire (3), Manchester (2); at Shavington, near Crewe, and at Ilford, Essex, and other towns single cases have appeared. It seems likely that cases will continue to appear but with diminishing frequency at Aberystwyth and elsewhere.

The most heavily infected portions of ice-cream were consumed by local inhabitants attending church excursions and a youth rally and were not available on a large scale to the ordinary holiday-makers. The infection is of moderate severity only, but more deaths are expected. The suspected carrier is a urinary excretor. Up to the present *Bact. typhosum* has not been found in his stools after four examinations. The organism recovered from his urine belongs to Vi-bacteriophage Type C. Organisms of the same type have been identified from several of the patients.

Uncooked shellfish are said to have caused 8 cases of typhoid at Glasgow and 4 (one fatal) at Dublin.

Detection of Typhoid Carriers

The *Monthly Bulletin of the Ministry of Health and the Emergency Public Health Laboratory Service* (1945, **4**, 224) contained a note on the detection of typhoid carriers. It is estimated that in 5% of cases of typhoid a raised titre of Vi-agglutinins persists for six months or more, and that 2% or more of patients become chronic carriers. Nine out of ten of the latter have permanently elevated Vi-agglutinin titres. The measurement of Vi-antibody is therefore a valuable indication of the carrier state.

"A chronic carrier may cease to excrete typhoid bacilli for no apparent reason and may resume doing so without any detectable alteration in his well-being. Epidemiological evidence, although not conclusive, suggests that the intervals of freedom may last for months or even years, but the Vi-agglutination test remains positive during these intervals. It is not proposed that any control, other than that afforded by the Public Health (Infectious Diseases) Regulations, 1927, should be exercised over carriers, and in this connexion the attention of medical officers of health is called to pp. 58–60 of the annual report for 1932 of the Chief Medical Officer of the Ministry.

"The method of detection is, before discharge from hospitals every typhoid convalescent should have a blood test for Vi-agglutinins. If they are absent no further action need be taken. If present (as might be expected in about one-half of the cases) a second test should be made three months later, when, if they are no longer present, nothing further need be done. If, however, Vi-agglutinins are present in a titre as high as, or higher than, before, two examinations a week for three weeks of the stools and urine, or, failing this, six examinations with as long an interval as possible between, should be made by selective cultural methods to find out whether typhoid bacilli are being excreted. If they are, the patient should be regarded as a persistent carrier; if they are not, it might be advisable to repeat the Vi-agglutination test three months later to see whether the titre is falling. Further action would depend on circumstances.

"As every case of typhoid fever owes its origin to a carrier (shedder) it is an obvious advantage to a medical officer of health to know at least some of the potential sources of infection in his district. By ascertaining the type of infecting

organism by the Vi-bacteriophage method, and by keeping a register of the names and addresses of the carriers thus typed, it may prove easier to trace the source of infection of fresh cases when they arise. The Emergency Public Health laboratories have been requested to do all they can to assist medical officers of health in making the proposals effective."

Heat-treatment of Ice-cream Mix

Draft regulations for the compulsory heat-treatment of ice-cream mix have been framed by the Minister of Health and circulated to various bodies for consideration, but no date has yet been fixed for bringing them into operation. Heat-treatment, it is proposed, shall not be necessary when ice-cream is made from a "complete cold mix powder" which is reconstituted with drinking-water and is frozen within one hour of reconstitution, but in other cases after the mix has been reduced to liquid form it must not be kept for more than one hour before being heated to 150° F. (65.5° C.) for thirty minutes or to 160° F. (71.1° C.) for ten minutes. The mix must then be cooled to 45° F. (7.2° C.) within ninety minutes and held at that temperature until frozen. The finished ice-cream must be stored at not more than 28° F. (−2° C.).

Anterior Poliomyelitis

There have now been 7 notifications from the Potters Bar area of Middlesex; the first of these cases, all in children, appeared on July 1.

High Barnet has had 6 cases over the last three weeks, 4 adults and 2 children, and 1 of the male patients has reached the stage of respiratory paralysis.

East Barnet has had 5 cases over the last five weeks, 4 children and 1 adult. In the first case the only sign at onset was paralysis of the soft palate. The most recent case, in a male adult, was a neurotic with a mild pyrexia admitted for general and neurological investigation. The diagnosis, which had not been suspected, was made only after a routine lumbar puncture.

Notifications in England and Wales during the six weeks ending Aug. 3, 1946, were 8, 9, 12, 10, 18, and 23. In the corresponding weeks of 1945 they were 8, 15, 12, 16, 22, and 21, respectively, and the upward trend expresses the usual seasonal rise. During the past week single cases have been diagnosed at Malden and Coombe Borough, Sutton and Cheam Borough, and Merton and Morden U.D. These figures are not unusual at this time of the year.

There have been more cases of poliomyelitis in the U.S.A. during the present year than in any year since 1934. Of the 380 patients in Minneapolis, Minnesota, 10% have died, and the incidence of the disease has risen sharply in ten other States.

At Dijon and nearby towns 15 cases of poliomyelitis have been reported recently.

Discussion of Table

In *England and Wales* a large increase in the notifications of diphtheria—61 cases—was recorded. Other large variations in incidence were increases in scarlet fever 58, and dysentery 30, and a decrease in measles 42.

The increase in cases of diphtheria in Lancashire 37 was mainly contributed by the county boroughs. There were 32 more notifications of scarlet fever also in Lancashire, and 22 more in Yorkshire West Riding. Although the total notifications of whooping-cough were 6 fewer than in the preceding week, there were considerable variations in local trends—increases in Yorkshire West Riding 50 and Lancashire 32, and a decrease in Kent 35. The number of cases of measles rose in Lancashire 121 and Durham 46, and decreased in Surrey 64 and Middlesex 63.

The rise in the incidence of dysentery was mainly due to the experience of London, where the cases rose from 4 to 27 (St. Pancras 14).

In *Scotland* very little change occurred in the returns of infectious diseases; there were fewer cases of acute primary pneumonia 15 and scarlet fever 12, and a rise of 7 in the notifications of diphtheria.

In *Eire* there was a rise in the incidence of diphtheria 7 and of enteritis and diarrhoea 7, with a fall in the returns for measles 12 and scarlet fever 15.

In *Northern Ireland* a decrease of 10 was reported in the figures for both diphtheria and whooping-cough.

Week Ending August 3

The notifications of infectious diseases during the week in England and Wales included: scarlet fever 940, whooping-cough 2,092, diphtheria 246, measles 3,540, acute pneumonia 356, cerebrospinal fever 44, dysentery 59, acute poliomyelitis 23, paratyphoid 7, typhoid 60.

No. 30

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended July 27.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1946					1945 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	41	6	17	1	3	42	6	23	—	4
Deaths		1	1				2	—		
Diphtheria	308	22	74	32	10	370	26	105	72	13
Deaths	2	—	—	—	—	4	—	1	—	—
Dysentery	90	27	29	—	—	226	24	77	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	1	—	—	—	—
Deaths		—					—			
Erysipelas			33	9	1			35	3	4
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				61					78	
Deaths	38	1	12	3	4	38	3	11	21	2
Measles*	3,741	478	161	58	2	2,581	129	62	32	4
Deaths	4	—	—	—	—	1	—	1	1	—
Ophthalmia neonatorum	72	6	16	1	—	63	3	19	—	—
Deaths										
Paratyphoid fever	14	1	1(A) 1(B)	—	—	7	—	1(B)	—	1(B)
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	363	18	2	2	3	322	20	1	—	—
Deaths (from influenza)†	1	—	—	—	—	4	—	—	—	—
Pneumonia, primary			125	22				111	9	
Deaths		16		5	6		26		4	4
Polio-encephalitis, acute	—	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	18	—	2	2	—	22	5	—	2	4
Deaths		—					1			
Puerperal fever		3	16		—		5	10		—
Deaths										
Puerperal pyrexia‡	145	16	16	3	1	161	14	18	—	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	994	86	92	14	16	1,223	76	155	24	24
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	8	—	10	5	—	11	3	1	4	1
Deaths	—	—	2	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	2,468	166	29	44	14	1,092	55	19	52	14
Deaths	8	1	3	—	—	2	—	—	—	—
Deaths (0–1 year)	342	53	59	20	11	247	31	45	38	14
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	3,851	632	499	168	108	3,512	516	481	183	107
Annual death rate (per 1,000 persons living)			11·0	10·8				10·9	11·8	
Live births	8,778	1378	1104	356	236	6,871	844	942	397	270
Annual rate per 1,000 persons living			22·2	22·8				18·8	25·6	
Stillbirths	285	37	26			196	22	31		
Rate per 1,000 total births (including stillborn)			23					32		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.
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ANY QUESTIONS?

Removal of Tattoo Marks

Q.—*What is the best way to remove tattoo marks?*

A.—The question of removal of identifying marks from the criminal has been discussed in medico-legal textbooks. There is no effective procedure except surgical treatment, although it is sometimes sufficient to change an inappropriate design by additional tattooing. The question has also been considered in connexion with the marks—for instance, on the face—from the admission of particles following motor accidents. Here plastic surgery may be required.

Treatment of Phlebitis

Q.—*(i) What are the modern treatment of phlebitis and its rationale? All the older textbooks advise immobilization for periods up to four weeks and stress the dangers of embolus. More recently there is a tendency to encourage early active movement in such conditions as phlegmasia alba dolens. A patient recently had a recurrence of phlebitis in the internal saphenous vein, beginning below the knee and spreading up into the thigh. It was advised that the limb be kept wrapped in a dressing of kaolin poultice and that the patient (a farmer) continue his normal activities. This seems so much the opposite of immobilization between sandbags for four weeks that I should be glad of an opinion as to the safety of the treatment and the probable period of incapacity.*

(ii) An intelligent patient always demands an explanation. What is the modern view on aetiology in the absence of a history of typhoid, pregnancy, operation, varicose veins, trauma, or a streptococcal throat infection?

A.—(i) For practical purposes "phlebitis" usually means a pathological process occurring in superficial veins of the lower limb, and in veins that are incompetent and varicose. There are naturally many other types, but their incidence is small when compared to the varicose type. The consensus is now in favour of ambulatory treatment in the majority of cases. The limb is enclosed in an adhesive bandage to well above the upper limit of the phlebitis. Moderate activity is allowed, and the supporting bandage is changed at intervals of about a week. When all pain, tenderness, and redness have gone the temporary use of a crêpe bandage is advisable before allowing unrestricted use of the limb. Ultimately treatment directed to the varicose veins themselves may be necessary—either injections or operation; but injections should never be carried out until at least six months have elapsed after an attack of phlebitis. This supporting treatment during phlebitis lessens pain, diminishes oedema, and therefore favours repair processes, and the moderate use of the limb improves the venous circulation and so lessens the risk of extension of the thrombosis. Clinical experience has shown the safety of this method. The local thrombus is adherent to the vein wall at the site of impaired nutrition, it is very irregular in shape, and the vein itself on the heart side is usually also irregular. Pulmonary emboli tend to come from extensions from the original thrombus of clot which is no longer adherent to the vessel wall. Bed may certainly lessen the risk of separation of a thrombus, but it will certainly favour the extension of thrombosis as the result of stagnation. In the case now quoted the recurrent phlebitis was probably associated with veins that were incompetent but undiagnosed as such, and therefore the treatment by support, as advised, was correct. Ambulatory treatment is not advisable where there is thrombosis of massive type in a completely incompetent internal saphenous vein, and ligation at the saphenous opening may be preferable in these. Neither does the treatment apply to those cases of infectious or bacterial thrombophlebitis associated with high fever. In most cases the period of relative incapacity due to phlebitis is determined by the extent of the process when the patient comes under observation, and it usually varies from three to six weeks. On the other hand, almost all clinicians still favour a prolonged period of immobility in conditions of deep thrombosis or phlegmasia alba dolens. In such cases the clot is massive, the veins are not irregular, the walls are healthy, and the thrombus is but lightly adherent.

(ii) Phlebitis in superficial veins in the lower limbs is almost always secondary to incompetence and varicosity. The thrombosis occurs at the site of thinning and impaired nutrition of the vein wall, and results from stagnation. At the local site the initial clot is adherent and irregular. Focal infection may play a part, but if it were an important part one would expect phlebitis to be much commoner in healthy, competent veins and in other situations. In a large number of cases this venous incompetence is overlooked. The phlebitis associated with typhoid, the puerperium, and operation is usually a deep thrombosis. Trauma or focal infection is more likely to lead to thrombosis in a varicose vein than in a normal one.

Diet and Renal Calculus

Q.—*A man of 46 with only one kidney (the other was removed in 1918) has twice had a renal calculus—one in 1933 and another last year. Cystoscopy and retrograde pyelography showed nothing abnormal, but the second stone was formed of oxalates. Both stones were passed "per vias naturales." What advice should be given—as to diet, for example—to prevent another stone forming?*

A.—The advice to avoid strawberries, rhubarb, spinach, and tomatoes is so well known that it does not merit repetition. However, it must be acknowledged that patients who never eat these substances form oxalate stones, and on seeking for the cause we are thrown back on to the statement that "gastro-intestinal upsets" can give rise to oxaluria. If this statement is analysed fully it seems most probable that the underlying cause of this alimentary upset is excess of carbohydrate in the diet, and patients who suffer from oxaluria should be advised to limit their carbohydrate intake.

Achondroplasia

Q.—*A patient aged 2 has achondroplasia. Has pituitary growth hormone any effect on the course of this disease? If so, what are the dosage and the period of treatment? Is there any danger in its prolonged use?*

A.—Achondroplasia is a congenital abnormality of bone cartilage formation arising in foetal life, and characterized by short legs and arms, a relatively long body, good intelligence, a big head and face, a square nose with a depressed bridge, and spade-like hands. Underlying endocrine defects have not been discovered, and in the writer's opinion this condition is unlikely to prove of endocrine origin or to be influenced fundamentally by endocrine therapy.

As regards the general question of the use of pituitary growth hormone, there is no danger from prolonged use. As, however, antibodies form in the blood after some weeks of injection it is advisable to separate the courses of treatment by intervals of two months. Even in dwarfism specifically due to a pituitary deficiency the writer is not impressed by the clinical results of the pituitary growth hormone, or at any rate by those preparations available to clinicians up to the present time.

Nail-biting in Adults

Q.—*What is the cure for adult nail-biting?*

A.—Nail-biting is in most cases the result of suppressed aggressiveness. It usually originates in early childhood, when the child, thwarted in every way and finding no other outlet, expresses it in this manner. Biting is fundamentally an aggressive rather than a nutritional form of behaviour; and biting

one's nails has the advantage over biting other things, in that one can feel the effect of the biting on oneself. It often occurs in moments of tension, such as during an examination. Exertion of will may be effective, but difficult because it is opposed by the basic and natural impulse to assert oneself. Only a very strong incentive to the exercise of the will is capable of overcoming the habit.

The natural cure is greater expression for normal assertive tendencies in life, work, and in relation to people; but the difficulty in this as in all the psychoneuroses is that it is no longer circumstances which thwart one but oneself. So that instructions to be more assertive in normal ways may be met by inhibitions in the patient himself, who, because of the early fears which made him repress his assertiveness, dare not express it now. The only adequate method, therefore, is by psychological treatment to discover the cause of the original aggressiveness and of its repression, and so release it for the normal uses of life.

Formates in Sweat and Urine

Q.—*What is the hydrogen formate content of spirit of formic acid? It is stated in a dictionary of chemistry that formic acid appears in sweat and urine. Is this true? If so, is formic acid present in excess in the acid sweats of rheumatism?*

A.—Spirit of formic acid is probably another name for spiritus formicarum. This contains 1% of formic acid in about 70% alcohol. It was formerly obtained by macerating ants. Formates appear in the urine, the normal daily excretion being 30 to 120 mg. Some part of this formate may be present as formic acid, but this is not known. Since formates appear in urine, they will almost certainly be present in sweat. It is not known whether formic acid is present in excess in the acid sweats of rheumatism.

Face-powder Dermatitis

Q.—*A patient suffers from an acute erythematous dermatitis of the face starting about two hours after applying face powder—the condition becoming progressively worse in the next 24–36 hours. It appeared first about eight months ago, and sensitization must have taken place when face powder was used when the patient had a boil on the face. A so-called non-irritant powder has had the same effect. What are the constituents of face powder likely to cause such a reaction? Could it be due to the scent? Is any method of desensitization likely to prove successful? If not, can you recommend a substitute for the ordinary cosmetics?*

A.—The constituent of face powder most likely to cause dermatitis is orris root. It is commonly used in face powders and has a delicate odour of sweet violets. Another but much less likely possibility is lycopodium; while other constituents are rice starch, arrowroot starch, maize starch, barium sulphate, bismuth salts, chalk, kaolin, kieselguhr, canolin, magnesium carbonate, stearate of zinc, talc, and zinc oxide. The most satisfactory treatment is elimination of the cause; orris-root-free face powder is obtainable. Hyposensitization is tedious and should be considered only in exceptional circumstances.

Sunstroke and Heat-stroke

Q.—*Why have topees and double-terais been discarded by both the Services and civilians in the Tropics? I met with many cases of both sunstroke and heat-stroke in Mesopotamia in 1916–18; this in spite of head-covering and spine-pads. Playing cricket, golf, or tennis without head-covering obviously reduced the player's stamina. Women in the Services, when they chose, walked about in Ceylon without any kind of hat.*

A.—It is now believed that sunstroke really amounts to heat-stroke, and that insolation does not occur merely from the direct impact of the sun's rays upon the unprotected head or nape of neck. This is dangerous only when body cooling proves inadequate. Certainly experience has shown that it is possible to live and work in the Tropics with bare torso and no hat; indeed the incidence of prickly heat over the trunk is probably much lessened. Nevertheless, some may well consider that the pendulum has swung too far, and the present-day habit of undress in the Tropics may be nothing far short of a cult or a fad. Premature exposure of untanned skin to the tropical sun is certainly unwise, especially in those not in first-class physical condition. In discarding spine-pads and topees an individual may be depriving himself of a certain measure of comfort, as well as a pleasing shade to the eyes against glare. It may be significant that the indigenes in desert countries usually wear clothing to protect both body and head. The effect of sunlight on the naked body is comparable to exposure to a source of radiant heat. Even in the Tropics a stoker in the boiler-room of a ship would hesitate to expose his bare torso to the radiant wild heat emanating from the engines. Although tanning of the skin protects against the painful effects of ultra-violet radiation, the body is rendered more sensitive to heating effects. Such a person absorbs more energy and will be heated more than one with a fair skin. This effect may be sufficient to tip the scales when the thermoregulatory body mechanisms are being strained. The interested reader may be referred to the recent monograph of H. F. Blum, "The Physiological Effects of Sunlight on Man" (*Physiol. Rev.*, 1945, July, 483), and also to D. B. Dill's *Life, Heat and Altitude* (Cambridge, 1938).

Incidentally one should be cautious of accepting the diagnosis of "sunstroke" in this country. Spontaneous subarachnoid haemorrhage from a leaking cerebral aneurysm is not infrequently so labelled.

Narcolepsy

Q.—*Is there any effective treatment for a man of 55 who is subject to falling asleep suddenly without warning? It came on after the 1914–18 war, and prevents him from undertaking serious employment.*

A.—This patient is evidently suffering from narcolepsy. The only effective treatment is amphetamine sulphate, which may be given in doses of 10 mg. two or three times a day, but the last dose should not be taken later than teatime lest it interfere with sleep at night. Marked hypertension would be a contra-indication.

LETTERS, NOTES, ETC.

Varicose Ulcers and Penicillin

Dr. MARGARET VIVIAN (Bournemouth) writes: One of your correspondents asks (Aug. 3, p. 183) whether penicillin has been successfully used for varicose ulcers, and so my own experience may be of interest. The patient had an ulcer in the middle of a tough scar half-way down the anterior surface of the tibia. The scar was originally due to an injury in the hockey field, and has been the site of varicose ulcers on two previous occasions. This time it started in 1939 with a slight abrasion, which spread rapidly until it was about 5 inches long and 2 inches wide. Various local applications were used without success, and the patient feared that he would carry this painful and indolent ulcer to his grave. In April, 1945, I was able to obtain penicillin cream, and immediately the ulcer became cleaner and began to heal. The only other treatment was the occasional application of lint soaked in a 1% solution of allantoin. The healing process was very very slow, and the final stage seemed interminable, but now, sixteen months after the first application of penicillin, the skin is whole.

Woolner's Tip

Dr. G. D. SUMMERS (Lincoln) writes: May a nephew of Thomas Woolner thank your correspondent for his kindly note (Aug. 3, p. 170)? Osler in his *Principles and Practice of Medicine* (8th Ed.) wrote of tophi under gout: "The student should learn to recognize, on the ear margin, Woolner's tip." Bland-Sutton used to speak similarly. Lovers of art among your readers may be interested to remember that Woolner was Rossetti's model for the angel Gabriel, Christina being the Blessed Virgin Mary, in "The Annunciation" in the National Gallery.

Duodenal Ulceration

Dr. ROSA FORD (London, W.1) writes: May I refer Dr. J. J. Kennedy (July 27, p. 136) to the work of F. A. Pickworth (*Proc. roy. Soc. Med.*, 1928, **21**, 972) and P. Watson-Williams (*British Medical Journal*, 1928, **1**, 931) on the aetiology of duodenal ulcer? Acting on their theory that infection from a remote septic focus is the cause of the ulcer, I once had the opportunity to treat a case (regarded as hopeless by a physician) by drainage of the nasal sinuses, with prompt and lasting success. A full report was published in the *Clinical Journal* (1945, **74**, 190).

Remedies for Herpes

A reader has pointed out that in the answer to a question on the above subject published in the *Journal* of May 25, p. 822, no mention was made of the medical memorandum by E. S. Hawkes on contramine for herpes (*B.M.J.*, Sept. 25, 1943, p. 391).